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# **CITY OF SAN PABLO GENERAL PLAN UPDATE Environmental Impact Report**

May 6, 1996

SCH# 95123045

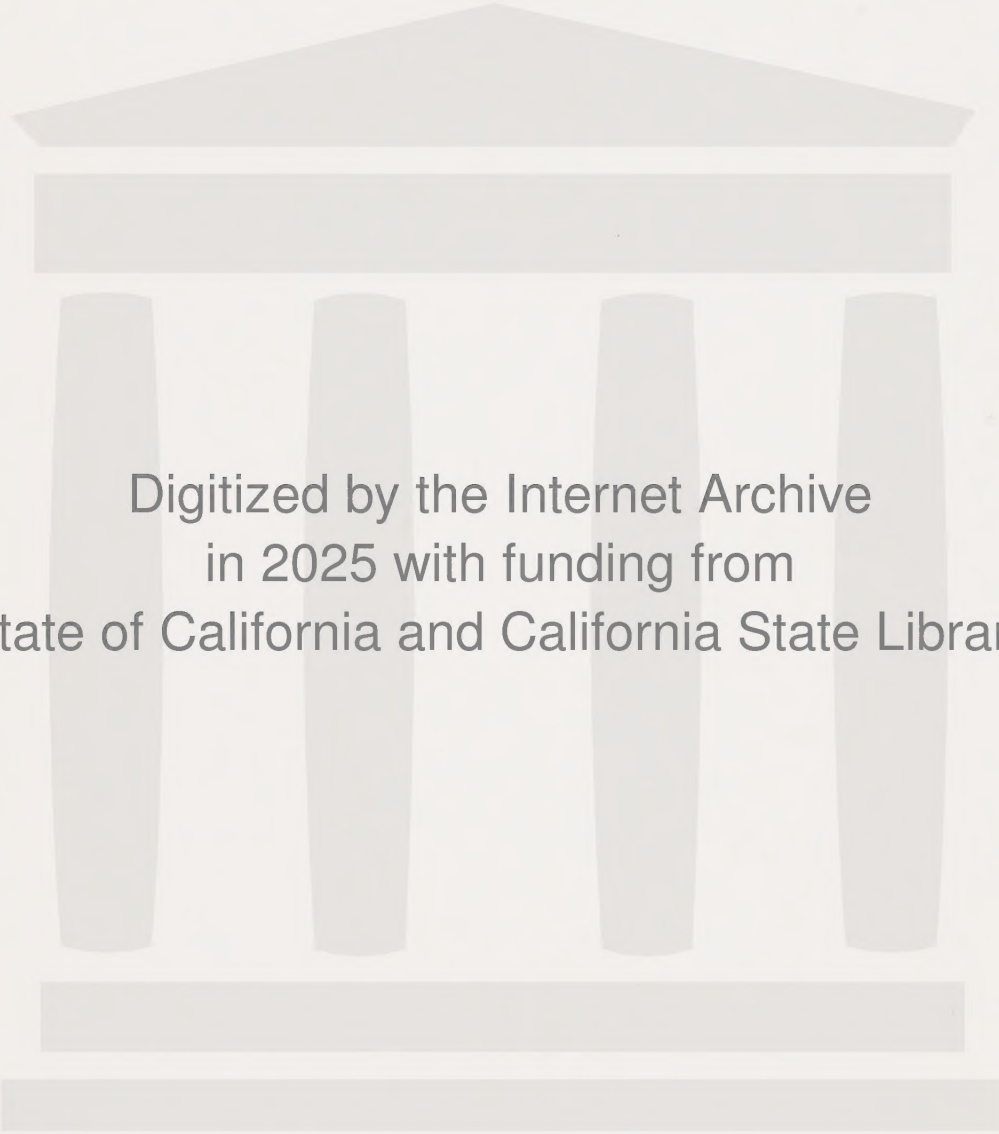
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May 6, 1996

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Prepared for:  
The City of San Pablo, California

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**SAN PABLO GENERAL PLAN UPDATE  
DRAFT ENVIRONMENTAL IMPACT REPORT**

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## I. INTRODUCTION

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### A. PROJECT OVERVIEW

The City of San Pablo has updated the existing San Pablo *General Plan* to address changed conditions and current planning issues within the City and the surrounding region. The updated General Plan accomplishes the following: consolidates all amendments to the *Plan* that have been made on a continuing basis since the first element of the *Plan* was adopted in 1972; revises the Land Use Plan and associated land use designations; and revises goals, policies, and guidelines that guide development within the City.

### B. RELEVANT STATE REQUIREMENTS

#### GENERAL PLAN

California Government Code Section 65300 requires every city and county to prepare and adopt a "comprehensive, long-term general plan for the physical development of the community" (State of California, 1990). Conceptually and legally, the general plan guides the exercise of city and county police powers through land use regulation (i.e., zoning and subdivision regulations) and the exercise of corporate power through provision of capital facilities. Government Code Section 65302 states that the general plan shall consist of a statement of development policies and shall include an exposition of objectives, principles, standards, and plan proposals. The plan must include, at a minimum, the following elements: land use, circulation, housing, conservation, open space, noise, and safety. In addition to the State-mandated elements, the San Pablo *General Plan* includes a Growth Management Element. The City does not propose changes to the Housing Element or the Growth Management Element of the existing *General Plan*.

#### ENVIRONMENTAL REVIEW

The adoption or amendment of a general plan, or element of a general plan, constitutes a project for the purposes of the California Environmental Quality Act (CEQA) and State CEQA *Guidelines*. If it is determined that any aspect of the proposed general plan document or amendment, either individually or cumulatively, would cause a significant effect on the



environment, an environmental impact report (EIR) must be prepared. The City of San Pablo has determined that this EIR is required for the updated General Plan.

### **C. AUTHORITY AND SCOPE OF THE EIR**

This EIR has been prepared as a Program EIR, which may be prepared for a project characterized as a series of actions that involve the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program (CEQA *Guidelines*, Section 15146(b)).

This EIR identifies general areas of environmental sensitivity and the potential general, cumulative effects of reasonably foreseeable development under the updated General Plan. The EIR does not evaluate the impacts of potential development on a project-specific level; specific development proposed after adoption of the updated General Plan could be subject to subsequent, project-specific environmental review. Under CEQA *Guidelines* Section 15168, however, this EIR may be used to eliminate the need for or reduce the scope of EIRs for subsequent development projects within the City. Projects that would affect land use designations on individual parcels during or after adoption of the updated General Plan would not necessarily affect the overall analysis of cumulative effects in this program-level EIR.

### **D. ORGANIZATION OF THE EIR**

This EIR is organized into seven chapters. This introductory chapter presents an overview of the proposed project and the relevant state requirements and guidelines for planning and environmental review. Chapter II summarizes the project description, the significant environmental effects of the proposed project, and the mitigation measures identified to reduce or avoid those effects. Chapter III presents a more detailed description of the project, including the location and boundaries of the planning area, regional and local setting, background to and purposes of the updated General Plan, and main features of the updated General Plan.

Chapter IV includes an assessment of the potential impacts under buildout of the updated General Plan (organized by environmental topic), and mitigation measures. Chapter V provides an overview of the environmental impacts of the project (including cumulative growth and growth-inducing impacts). Chapter VI provides an analysis of the potential impacts of the alternatives to the updated General Plan. Chapter VII lists those involved in the preparation of this EIR. Appendices to this document include information on transportation and circulation;



biological resources regulatory framework; public health and safety; cultural resources; water quality; and air quality standards and regulations.

#### **E. PUBLIC REVIEW**

The Draft EIR will be available for public review for 45 days. (References used in the preparation of this document also will be available for review, at the City of San Pablo.) During this period, comments on the EIR's accuracy and completeness may be submitted by public agencies, other groups, and concerned individuals. Written comments should be submitted to Mr. John Eller, City of San Pablo Planning Department, One Alvarado Square, San Pablo, California 94806. Oral comments can be made at a public hearing on the project, to be scheduled and publicly noticed by the City. All oral and written comments relevant to the content of the Draft EIR received during the public comment period will be addressed in the Final EIR.



## II. SUMMARY

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### A. PROJECT DESCRIPTION

The City of San Pablo encompasses about 2.6 square miles in what is considered the "West County" area of Contra Costa County. The City's Sphere of Influence (SOI) encompasses the Rollingwood residential area, which is located along El Portal Drive and I-80 at the City's northeastern border; and the Hillside neighborhood, which is adjacent to the northern boundary of Alvarado Park at the eastern edge of the City. The San Pablo Planning Area extends to the limits of the SOI.

Most of the City's land area is west of I-80, which runs north-south through the city. San Pablo, Wildcat, and Rheem Creeks extend through the city from east to west. Approximately 63 percent of the City's land is residential; low-density residential uses are located throughout the city, mostly away from commercial areas and major streets. Existing commercial uses are concentrated along San Pablo Avenue, El Portal Drive, Rumrill Boulevard, 23rd Street, and San Pablo Dam Road. The city has relatively few industrial uses and two regional public facilities, Brookside Hospital and Contra Costa College. The city is highly urbanized and contains few areas of undeveloped land.

Since the last complete update of the *General Plan* occurred, the City has operated under a number of fragmented plans and policies as dictated by local, regional, and State requirements. The City has determined that a comprehensive update of the *General Plan* is needed in order to achieve consistency with certain zoning designations, local and regional planning programs, and the requirements of local, State, and Federal laws and regulations. The updated General Plan also addresses changed land use patterns that have occurred over the years. The San Pablo updated General Plan is also intended to encourage economic development and redevelopment.

The proposed project proposes to update and consolidate most of the existing General Plan Elements to form four new elements: Land Use, Economic Development, and Community Design; Circulation, Public Facilities and Services; Public Safety and Related Services; and Environmental Resources Management (such consolidation is allowed by State law). These elements, along with the approved (existing) Housing Element and Growth Management Element, would address all of the issues required by State law, plus others that are of particular concern to San Pablo.



- The proposed Land Use, Economic Development, and Community Design Element is intended to change existing policies and land use designations in order to provide a mix of uses that will help support present and future service demands on the City.
- The proposed Circulation and Public Facilities Element, which combines the Circulation Element and the Public Facilities Element contained in the current *General Plan*, is intended to implement the standards identified in the City's approved Growth Management Element, and to serve as a reference point for agreement between the City and regionally-oriented policies.
- The proposed Public Safety and Related Services Element, which combines the Seismic Safety Element, the Public Safety Element, and the Noise Element contained in the current *General Plan*, contains policies intended to protect human health and the community from natural and human-induced disasters.
- The proposed Environmental Resources Management Element establishes the overall goals, policies, and implementing actions that relate to the preservation and enhancement of open space and the conservation of natural resources. The element combines the Open Space Element and the Conservation Element contained in the current *General Plan*.

The main feature of the draft Land Use, Economic Development, and Community Design Element that distinguishes it from the current *General Plan* Land Use Element is the creation of a new, district-related land use designation, Mixed Use, that is designed to enhance economic and redevelopment opportunities in the City by allowing a mixture of retail, community-oriented uses, commercial, and residential uses. The Land Use Map illustrates eight different Mixed Use Districts throughout the City.

Land use categories would generally be similar to the current *General Plan*, with the exception of the Mixed Use category. The distributions and mix of uses, however, would be substantially different in some areas. The mix and distribution of proposed land uses are a direct result of community input, the Background Report on existing conditions prepared in October 1995 and the Economic Validation Report.

Buildout consistent with the updated General Plan could result in up to about 5.9 million total square feet of commercial and industrial development and up to about 20,410 total residential units. However, these "maximum development" estimates are considered unrealistic as the basis for analyzing environmental impacts. The estimates also do not take into account the actual densities of existing uses in the City. Based on the conclusions of economic studies prepared for the City as part of the General Plan update, and taking existing uses into account, the total

number of households would increase to about 9,830 in 2010, and the total industrial and commercial space would increase to about 4.2 million square feet.

This EIR analyzes reasonably foreseeable development in 2010 under the updated General Plan. The development assumptions used to estimate additional housing, population, and employment would be incorporated into the City's environmental review of future projects. Those future development projects would be compared with the underlying assumptions; if the projects are not encompassed by the underlying assumptions, additional cumulative environmental review might be required.

### **A. SUMMARY OF IMPACTS**

Table II.1, beginning on p. II.11, presents a summary of the impacts of the updated General Plan, identified mitigation measures, and level of significance after mitigation.

Most of the environmental impacts presented in the table are significant (before mitigation). The determinations of significance are based on significance criteria developed for each category of impacts and presented in the appropriate sections of Chapter IV, Environmental Setting, Impacts, and Mitigation Measures. Each impact is labeled by impact category and number (e.g., Land Use-1).

Most of the less-than-significant impacts in the EIR are discussed briefly in paragraph form in Chapter IV, and thus are not presented in Table II.1. However, the table does include a few key less-than-significant impacts. These selected impacts are presented in the same format as the significant impacts in the EIR because 1) a detailed demonstration of the impact's insignificance was considered necessary, and/or 2) these impacts may be considered important by the City, reviewing agencies, or the public. Where less-than-significant impacts are treated in less detail in Chapter IV, Table II.1 includes a notation to that effect.

Where policies and actions in the updated General Plan would help to (or fully) mitigate the impact, the applicable policies and actions are listed by number in Table II.1. In some cases, adopted policies in the Growth Management or Housing Elements would also help to mitigate the impact, and references to those policies are also included in the table. Where additional mitigation measures have been identified in this EIR, the measures are presented in full in Table II.1. The additional measures are assigned numbers corresponding to the impacts they would mitigate.

### C. ALTERNATIVES TO THE PROJECT

The following is a summary of the alternatives that have been analyzed as part of this EIR.

#### ALTERNATIVE A.1: NO PROJECT - NO DEVELOPMENT ALTERNATIVE

A No Development alternative is not considered feasible, in that it would require that the City refuse to approve any development proposals in San Pablo. Should such a No Development alternative come to pass, however, the resulting impacts would be maintenance of existing environmental conditions as described in the Setting portions of Chapter IV for those conditions that would otherwise change with development in San Pablo. Certain impacts described in Chapter IV would occur whether or not additional development were to occur in San Pablo.

#### ALTERNATIVE A.2: NO PROJECT - EXISTING *GENERAL PLAN*

This alternative would involve no change to the City's existing *General Plan*, and buildout would occur consistent with the existing *General Plan* Land Use Map. The Mixed Use Districts proposed as part of the updated General Plan would not be established. Considering development that would be reasonably foreseeable by 2010 (reflected in ABAG's *Projections '94*), the number of households would increase to 10,800 under the existing *General Plan*, compared to 9,800 under the updated General Plan, and the year 2010 population of San Pablo would be approximately 33,400, compared to approximately 31,600 under the proposed project. Total employment in 2010 under this alternative would be about 8,950, compared to about 9,600 with the project. All of the existing *General Plan* Elements (including the Growth Management and Housing Elements, which would also apply to the updated General Plan) would apply to this alternative.

Under this alternative, San Pablo would gain population at a slightly higher rate, and jobs at a slightly slower rate, than with the updated General Plan. Densities in some areas of the City might be less than under the updated General Plan (particularly where the Mixed Use District concept fosters growth that might not otherwise occur); in other areas, densities might be higher. With less job growth than the updated General Plan, this alternative would result in San Pablo continuing to be an exporter of employed residents (and the jobs/housing balance would substantially worsen, compared to current conditions and the updated General Plan).



Impacts related to the intensity of development generally might be more substantial in some areas, and less substantial in others, with this alternative than with the project. Land use incompatibilities could occur between potential industrial development along Rumrill Boulevard and existing residential development. Overall, traffic volumes would be lower at some intersections, and higher at others, than under the updated General Plan. For most of the intersections studied, levels of service would be the same under both scenarios. Generally, the intersections that would be congested under the updated General Plan would also be congested under the existing *General Plan*. Similar to the updated General Plan, the LOS would not exceed the Level of Service Objectives established by WCCTAC. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project.

Fugitive dust generated by construction and demolition activities would occur and would still be significant, as with the updated General Plan. Increased traffic could also contribute to CO "hot spots" at congested intersections. The existing *General Plan* could be considered inconsistent with the *94 Clean Air Plan*, and the regional air quality impact would be considered significant. This alternative also would result in the creation of more sensitive land uses that could be exposed to odors and toxic air contaminants.

Noise generated by construction activities would occur and would be significant, similar to the updated General Plan. Traffic noise impacts of the existing *General Plan* would likely be similar to those of the updated General Plan. This alternative also would result in the creation of more new noise-sensitive land uses. Overall energy usage is likely to be similar for the two scenarios.

Impacts related to cleanup of hazardous materials or wastes in the City would be similar under this alternative; impacts related to the increased handling of hazardous materials and increased generation of hazardous wastes would be similar or slightly less. Existing laws and regulations would largely govern the handling of hazardous materials.

Demand for most public services would be more substantial than with the project because of the higher population forecasts. Impacts related to increases in school enrollment and increased demand for park and recreation services would still be unavoidably significant.

Impacts related to existing site-specific conditions, such as cultural resources, vegetation and wildlife, and geology, would be similar to those with the updated General Plan. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement

of development on a site. More new residents would be exposed to flood hazards and seismic hazards. Impacts related to potential contamination of surface waters due to point-source pollution would likely be about the same. Visual impacts could be greater than with the updated General Plan.

### ALTERNATIVE A.3: NO PROJECT - EXISTING ZONING

This alternative would be similar to A.2, Existing *General Plan*, except that buildout would occur consistent with the existing Zoning Map rather than the existing *General Plan* Land Use Map. (The Zoning Ordinance was not updated following the 1980 General Plan Update.) The pattern of uses would generally be similar to the existing *General Plan*, except that the concentration of uses along Rumrill Boulevard would be more focused on commercial than industrial uses, and the concentration of uses along Market would be more focused on commercial than residential uses.

If the updated General Plan were not approved and development occurred consistent with the Zoning Map, the development that would be reasonably foreseeable by 2010 would likely be similar to what would occur according to the existing *General Plan* scenario (i.e., development consistent with the existing Land Use Map). Population and employment growth would be similar to the existing *General Plan*, and impacts related to the level of population and employment (such as traffic and traffic-related noise and air quality impacts, and public services) would be similar to those under the existing *General Plan*. Most impacts related to the use of land for development, such as cultural resources and biological resources, would be similar to those under the existing *General Plan*, as those impacts would be largely a function of whether a particular parcel were developed. To the extent that the pattern of development under the Zoning Map differs from that under the existing *General Plan* and updated General Plan, impacts in particular areas of the City could differ.

### ALTERNATIVE B: UPDATED GENERAL PLAN BUILDOUT

As stated previously, the analysis of the updated General Plan in the EIR is based on what is reasonably foreseeable by 2010, rather than buildout. The purpose of this scenario is to explore the potential impacts of buildout of the updated General Plan. Because the proposed project is the updated General Plan, this scenario is not related to a different approval that could be made by the City. Rather, this scenario indicates the type of impacts that could occur if development occurs beyond the levels assumed for this EIR.

This scenario would result in approximately 5.9 million square feet of commercial development, compared to about 4.2 million square feet of "reasonably foreseeable development" (about 40 percent more). This scenario would result in about 20,400 residential units, compared to about 9,830 of "reasonably foreseeable development" (about 108 percent more). Applying these percentage increases to population and employment (to give a rough basis for comparison), the population at buildout would be about 44,200 (compared to 31,600 in 2010) and employment would be about 20,000 (compared to 9,600 in 2010). The proposed policies and all other aspects of the updated General Plan would apply to this scenario.

Under the buildout scenario, San Pablo could gain population and employment at much higher rates than what is considered reasonably foreseeable with the updated General Plan. This scenario would result in more job and population growth than what is considered reasonably foreseeable, but the jobs/housing balance (ratio) would be about the same as was analyzed in Section IV.C. of this EIR.

Impacts related to the intensity of development generally might be more substantial in some areas, and about the same in others, with this scenario. Overall, traffic volumes would likely be higher at all intersections than those analyzed in Section IV.B. of this EIR. Generally, the intersections that would be congested with reasonably foreseeable development under the updated General Plan also would be congested at buildout under the updated General Plan, and would likely be congested for longer periods. Additional intersections could be congested as well. In addition, the levels of service at several intersections might exceed the Level of Service Objectives established by WCCTAC (potentially leading to unavoidably significant impacts). Freeway operations on I-80 would be at LOS E/F to LOS F.

Fugitive dust generated by construction and demolition activities would occur and would still be significant, as with the updated General Plan. Increased traffic could also contribute to CO "hot spots" at congested intersections. Depending on how quickly it occurs, the population increase that would occur under the buildout scenario may or may not be considered to contribute to a regional air quality impact (i.e., if the increase occurs over the long term, it could be consistent with the assumptions in the *'94 Clean Air Plan*). The buildout General Plan could be considered consistent with the *94 Clean Air Plan*, and the regional air quality impact would be considered less-than-significant. This scenario would result in the creation of more sensitive land uses that could be exposed to odors and toxic air contaminants.



Noise generated by construction activities would occur and would be significant, similar to what is analyzed in Section IV.L of this EIR. Greater numbers of people could be exposed to unacceptable noise levels. This scenario also would result in the creation of more new noise-sensitive land uses. There would be a greater demand for energy for residential use and for commercial and industrial use.

Impacts related to cleanup of hazardous materials or wastes in the City would be similar under this alternative; impacts related to the increased handling of hazardous materials and increased generation of hazardous wastes would be similar with this scenario. Existing laws and regulations would largely govern the handling of hazardous materials.

Demand for public services would be more substantial than identified in Section IV.F. of the EIR, because of the higher population and employment forecasts. Impacts related to increases in school enrollment and increased demand for park and recreation services would still be unavoidably significant.

Impacts related to existing site-specific conditions, such as cultural resources, vegetation and wildlife, and geology, could be similar to those with the proposed project. The greater density and amount of development assumed for this scenario might result in some increases in site-specific impacts relative to what was analyzed in Section IV of this EIR. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site. More new residents would be exposed to flood hazards and seismic hazards (but the substantial redevelopment that would need to occur for this scenario could result in improved structural conditions and an overall lowering of the potential risk). Impacts related to potential contamination of surface waters due to point-source pollution could be greater. The increased development involved with the scenario could result in a potential increase in obstruction of views, but the greater number of development and redevelopment projects would provide the opportunity to improve blighted conditions and fulfill the visual and design concepts in the updated General Plan.

#### ALTERNATIVE C: REDUCED-DENSITY ALTERNATIVE

The Reduced-Density Alternative represents a variety of scenarios that could result in less intensive development than that envisioned by the updated General Plan. For one scenario, the Reduced-Density Alternative could assume the same land use designations for all parcels and Mixed Use Districts for all areas as does the updated General Plan, and assume that development



would occur at a density lower than what was assumed for the EIR. While the Reduced-Density Alternative could be achieved through across-the-board reductions in permitted development density, it could also represent a substantially greater reduction in permitted development on certain parcels (such as parcels within the Alquist-Priolo Zone, for example), compared to the project, while retaining the same level of development on other parcels as would the project.

Impacts related to the intensity of development generally would be less substantial with this alternative than with the updated General Plan; that is, traffic, air quality, traffic-related noise, and demand for public services, including schools and parks, would be reduced. Despite the reduced trip generation, the intersections that would be congested under the updated General Plan (LOS E or F conditions) would probably still be congested under the Reduced-Density Alternative. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project.

Fugitive dust generated by construction and demolition activities would occur and would still be significant, as with the updated General Plan. Increased traffic could also contribute to CO "hot spots" at congested intersections. The population increase that could occur under this alternative would be less than under the updated General Plan, and therefore, is considered not to contribute to a regional air quality impact. This alternative would result in the creation of fewer sensitive land uses that could be exposed to odors and toxic air contaminants.

Noise generated by construction activities would occur and would be significant, similar to the updated General Plan. Traffic noise impacts of this alternative would likely be similar to those of the updated General Plan. This alternative would result in the creation of fewer new noise-sensitive land uses. There would also be less demand for energy for residential and commercial/industrial use.

Impacts related to cleanup of hazardous materials or wastes in the City could be similar under this alternative; impacts related to the increased handling of hazardous materials and increased generation of hazardous wastes would be similar or slightly less with this alternative. Existing laws and regulations would largely govern the handling of hazardous materials.

Demand for public services would be less than the demand that would be anticipated with the updated General Plan. School impacts would be less than with the project (but might still be unavoidably significant). There would be less of an increase in the need for City park and recreation facilities, and the impact might be less than significant.

Impacts related to existing site-specific conditions, such as vegetation and wildlife and geology, could be similar to those with the proposed project, depending on whether specific parcels were designated for substantially less density. If development on more environmentally sensitive parcels were more highly restricted, this alternative could have less impact than the project on those parcels. Impacts related to potential contamination of surface waters due to point-source pollution could be somewhat less than with the project. This alternative would expose fewer residents to hazards such as flooding or seismic hazards (and if less development occurred within or near the Alquist-Priolo Zone, there could be less exposure to hazards related to fault surface rupture). Impacts related to cultural resources would be similar to or less than those of the updated General Plan. Visual impacts could be less substantial than with the project due to the smaller amount of development.

Because impacts of this alternative related to the intensity of development generally would be less substantial than with the proposed project, and because this alternative would likely not have significant, unavoidable effects on park and recreation services, in contrast to the proposed project, the Reduced Density Alternative is considered the environmentally superior alternative.

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>IV.A Land Use, Plans and Policies</b>				
<b>Land Use-1:</b> Implementation of the updated General Plan would allow increased density. Development consistent with the updated General Plan would result in patterns of development that differ from existing land use patterns and could result in direct impacts related to traffic, visual quality, air quality and noise. This would be a significant Citywide and regional cumulative impact.	<b>Land Use, Economic Development, and Community Design Element Policies and Actions LU 1.1, 1.5, 2.1 2.2, 2.5, 5.8, 5.10, 5.B, 6.1, 6.2, 11.2, 12.4, 14.5, 15.1, 16.1</b>	None identified.	None required.	LS
<b>Land Use-2:</b> Development consistent with the updated General Plan would result in the potential for incompatible land uses. Land use conflicts that could occur include: (1) conflicts between proposed land uses and existing land uses; and (2) conflicts between new land uses resulting from implementation of the proposed land use designations. This would be a significant Citywide and cumulative regional impact.	<b>Land Use, Economic Development, and Community Design Element Policies and Actions LU 1.3, 1.4, 1A, 1.D, 2.7, 3.1, 3.3, 3.A, 3.C, 3.D, 4.2, 4.4, 4.7, 4.10, 4.11, 4.12, 4.A, 5.4, 5.5, 5.9, 5.B, 8.3, 8.B, 11.5, 12.1, 13.3, 13.4, 15.1, 16.3, 17.8</b>	None identified.	None required.	LS

S=Significant; LS=Less than Significant

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>IV.B Transportation and Circulation</b>				
<b>Transportation-1:</b> Traffic generated by development consistent with the updated General Plan would increase traffic through intersections on Routes of Regional Significance within the City of San Pablo Planning Area. This would be a less than significant impact.	<p><b>Land Use, Economic Development and Community Design Element Policies and Actions LU 1.1, 2.1, 2.2, 2.4, 2.5, 2.6, 4.6, 1.B, 2.A, 2.B, 2.C, 2.D, 4.C, 9.A</b></p> <p><b>Circulation, Public Facilities and Services Element Policies and Actions CF 1.2, 1.3, 1.4, 1.6, 1.B, 1.C, 1.D, 1.7, 1.8, 1.13, 1.F, 1.G, 1.J, 1.14, 1.15, 1.16, 1.17, 1.18, 1.M, 1.N, 1.O, 1.P, 1.R, 1.S</b></p>	<b>Growth Management Element Policies P2.1 through P2.7, P2.10 through P2.17</b>	None required.	LS
<b>Transportation-2:</b> Traffic generated by development consistent with the updated General Plan would increase traffic on the I-80 freeway. This would be a less than significant impact.	See Transportation-1.	See Transportation-1. (See Section IV.B for a discussion of the West Contra Costa County Action Plan.)	None required.	LS
<b>Transportation-3:</b> Policies included in the updated General Plan could result in increased use of alternatives to the single-occupancy vehicle. This would be a less than significant impact.	See the Transportation-1 and -2.	See Transportation-1 and -2.	None required.	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Transportation-4:</b> Development that would occur pursuant to the updated General Plan could encourage walking and bicycle use. This would be a less than significant impact.	See Transportation-1.	See Transportation-1.	None required.	LS
<b>Transportation-5:</b> Traffic generated by development consistent with the updated General Plan would contribute to congestion on local roadways. This would be a less than significant impact. (Emergency vehicle access)	See Transportation-1.	See Impact Transportation-1.	None required.	LS
<b>IV.C Population, Employment and Housing</b>  There are no significant impacts identified in this category (the section includes a discussion of less-than-significant impacts).				

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>IV.D Vegetation and Wildlife</b>				
<b>Biology-1:</b> Development consistent with the updated General Plan could directly and indirectly affect wetlands, streams, and riparian communities both within the City and downstream. This would be a significant project-specific and regionally cumulative impact.	<b>Environmental Resources Management Element Policies and Actions ER 2.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.18, 1.19, 1.20, 1.21, 1.23, 1.25, 1.A, 2.D, 2.E, 1.B, 1.C, 1.D, 1.E, 1.J, 1.K, 1.L, 1.M, 1.N, 1.O, 1.P, 1.Q, 1.R, 1.S, 1.T</b>  <b>Circulation, Public Facilities and Services Element Policies and Actions CF 3.1, 3.C, 4.H</b>  <b>Public Safety and Related Services Element Action PS 1.J</b>	None identified.	<b>Biology-1a:</b> The City shall condition approval of individual development proposals in areas known to the City as having potential riparian or wetland resources or effects on such resources and incorporate the following mitigation program: <ul style="list-style-type: none"> <li>• Prior to construction in areas of riparian corridors or wetlands, the City shall support CDFG and Corps permitting processes. A Streambed Alteration Agreement from CDFG, Section 404 Corps permit, and/or a water quality certification from the Regional Water Quality Control Board (as applicable) shall be obtained by the project applicant prior to any development within any creek, wetland or associated riparian zone, or discharge of fill into any creek or wetland.</li> <li>• Design of building footprints along any riparian corridors shall be outside the CDFG- and/or Corps-designated buffer zone (the buffer zones are determined by the agencies on a case-by-case basis). Sensitive riparian habitats shall be marked by a qualified biologist to deter any destruction by equipment during construction.</li> <li>• Development along any riparian corridor shall incorporate measures to avoid impacts during construction, such as [those listed in Section IV.D].</li> </ul>	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<ul style="list-style-type: none"> <li>The City shall require project proponents to design facilities to prevent degradation of riparian and wetland communities from urban pollutants in storm runoff.</li> </ul> <p><b>Biology-1b:</b> The City shall condition approval of individual development proposals on the following mitigation measure:</p> <ul style="list-style-type: none"> <li>As part of Groundwater - Action 1.M, and in conjunction with the City's Storm Water Management Plan, develop a set of best management practices (BMPs) for developers to follow. Implementation of best management practices by the developers would further help to mitigate this impact. Such practices may include, but are not limited to [those listed in Section IV.D].</li> </ul>	
<p><b>Biology-2:</b> Development consistent with the updated General Plan could directly or indirectly affect special status species and/or their habitat. This would be a significant project-specific and regionally cumulative impact.</p>	<p><b>Environmental Resources Management Element Policies and Actions ER 1.20, 1.21, 1.22, 1.24, 1.25, 1.F, 1.R, 1.S, 1.T</b></p>	None identified.	<ul style="list-style-type: none"> <li>For projects not exempt from the California Environmental Quality Act, the City shall continue to use environmental review under CEQA to review development and for impacts on sensitive species and their habitat.</li> </ul>	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Biology-3:</b> Development consistent with the updated General Plan could result in the direct removal of significant specimens of native tree species, with potential indirect effects on wildlife. This would be a significant project-specific and regionally cumulative impact.	<b>Environmental Resources Management Element Actions ER 1.Q, 1.R</b>	None identified.	<ul style="list-style-type: none"> <li>Areas that could provide habitat for sensitive species shall be surveyed by qualified biologists provided by project sponsors prior to project approval. Sensitive areas within the City includes streams and wetlands, open grasslands, woodlands, or chaparral, and buildings which are abandoned or slated for destruction. If any species is present, coordination with the CDFG and/or USFWS (as applicable) will be required for mitigation of impacts and redesigning of the project footprint to avoid any sensitive species or sensitive habitat. If avoidance is not feasible, coordination with the CDFG and/or USFWS will be required for relocation of these species and for determining replacement of habitat.</li> </ul>	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Biology-4:</b> Introduction of invasive non-native species used in landscaping would be detrimental to native habitats within the City. This would be a significant project-specific and regionally cumulative impact.	<b>Environmental Resources Management Element Actions ER 1.P, 1.S, 1.T</b>	None identified.	None required.	LS
<b>Biology-5:</b> Development consistent with the updated General Plan would result in the loss of open space and would have a cumulative adverse impact on wildlife. This would be a significant regionally cumulative impact.	<b>Environmental Resources Management Element Policies and Actions ER 2.1, 1.4, 1.5, 1.6, and 1.7, 1.20 through 1.25, 2.D, 2.E, 1.C, 1.D, 1.E, 1.F, 1.J, 1.M, 1.R, 1.S, 1.T</b>	None identified.	<b>Biology-5a:</b> The City should implement Mitigation Measures Biology-1a and Biology-2a to help reduce the regionally cumulative impact to wildlife.	LS
<b>IV.E Visual Quality</b>				
<b>Visual 1:</b> Implementation of the proposed land use designations could result in development that impairs the existing scenic quality of the City. This would be a significant impact.	<b>Land Use, Economic Development, and Community Design Element Policies and Actions LU 1.3, 1.4, 1.B, 3.G, 3.H, 4.F, 5.11, 6.5, 6.7, 1.A, 6.B</b>  <b>Environmental Resources Management Element Policies and Actions ER 2.1, 1.A, 1.3, 1.C, 1.9, 2.6</b>	None identified.	<b>Visual-1a:</b> Development proposals should be reviewed in terms of natural objects in the vicinity that have aesthetic significance. This may include open space or vegetation that serves as a view corridor or has important visual attributes. Development proposals should be sited to ensure that these features are retained or replaced to the extent feasible, resulting in minimal view impairment.	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p><b>Visual-1b:</b> Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, should be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors. If specific trees are to be removed, replace with trees, preferably native species, that would provide suitable screening while retaining important view corridors.</p>	
<p><b>Visual-2:</b> Adoption of the proposed land use designations could result in development that could result in obstruction of scenic vistas and views open to the public. This would be a significant impact.</p>	<p><b>Land Use, Economic Development, and Community Design Element Policy and Action LU 1.4, 4.F</b></p> <p><b>Environmental Resources Management Element Policies and Actions ER 2.1, 1.9, 1.8, 1.G, 2.2, 2.A</b></p>	None identified.	<p><b>Visual-2a:</b> Development should preserve important view corridors, where feasible, by identifying and preserving the attributes of the view corridor that characterize its significance (e.g., framing elements, surface water reflections, presence or absence of impinging details) as seen from roadways, pedestrian paths or other public vantage points to avoid view obstruction. Buildings should be sited so as to minimize view obstruction from sensitive viewpoints.</p>	LS
<p><b>Visual-3:</b> Development in certain areas could introduce additional light and glare. This would be considered a significant impact.</p>	<p><b>Land Use, Economic Development, and Community Design Element Policies and Actions LU 1.4, 6.7, 3.G, 4F</b></p>	None identified.	<p><b>Visual -3a:</b> The City of San Pablo should evaluate the light and glare potential of new development on a parcel specific basis and apply the following measures:</p> <ul style="list-style-type: none"> <li>Screening of parking areas by using vegetation or trees. This would reduce the amount of glare generated from painted and chrome automobile surfaces and prevent expanses of stationary and moving automobiles.</li> </ul>	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<ul style="list-style-type: none"> <li>Hooded lights for nighttime illumination should be used for parking areas, shipping and receiving docks and industrial development. Hooded lights direct the light beam towards the ground, which if a dark pavement, will not reflect light and cause spillage into neighboring uses.</li> <li>Regular windows should be used instead of the glass walls or massive reflective windows often used for research and development, and office park developments.</li> </ul>	
<b>IV.F Public Services and Utilities</b>				
<b>Parks-1:</b> Development consistent with the updated General Plan would increase the need for parks, recreation facilities, and recreational programs. This would be a significant impact.	<b>Circulation, Public Facilities and Services Element Policies and Actions CF 2.1, 2.4, 2.6, 4.1, 4.2, 4.3, 2.A, 2.B, 2.M, 2.P, 2.Q, 4.A, 4.B, 4.C, 4.D, 4.F, 4.G, 4.H</b>	<b>Growth Management Element Policies P.3.1 and P.3.4</b>	<p><b>Park 1a:</b> The City shall incorporate into Action CF 4.A (Recreation and Parks Master Plan) a mechanism for annual evaluation of the Plan and its implementation.</p> <p><b>Park 1b:</b> The City shall adopt a policy requiring it to work with institutions (such as the School District and EBRPD) and private developers who have large parcels to create parks and open space.</p>	S
<b>Emergency Response-1:</b> The City's Multi-Hazard Functional Plan may be considered inadequate under State law. This would be a significant impact.	<b>Public Safety and Related Services Element Policies and Actions PS 1.1, 1.2, 1.3, 1.A, 1.B, 1.C, 1.D, 1.E</b>	None identified.	None required.	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Police-1:</b> Development consistent with the updated General Plan would result in increased demand on police services in the City. This would be a significant impact.	<b>Public Safety and Related Services Element Policies and Actions PS 2.1, 2.2, 2.3, 2.4, 2.5, 2.A, 2.B, 2.C, 2.D, 2.E, 2.F, 2.G, 2.H, 2.I, 2.J, 2.K, 2.L, 2.M</b>	<b>Growth Management Element Policies P3.1, P.3.4</b>	<b>Police-1a:</b> The City shall add the following policy to the Public Safety and Related Services Element:  The City shall adopt the national standard of 1.5 positions per 1,000 residents.	LS
<b>Fire-1:</b> Development consistent with the updated General Plan would result in increased demand on the Fire District services in the City. This would be a significant impact.	<b>Public Safety and Related Services Element Policies and Actions PS 3.1, 3.2, 3.3, 3.A, 3.B, 3.C</b>	<b>Growth Management Element Policies P3.1, P.3.4</b>	<b>Fire-1a:</b> The City shall assist the Fire Protection District in processing the collection of fire impact fees from any redevelopment projects within the City's Redevelopment Plan Area(s).  <b>Fire-1b:</b> The City shall work with the Fire Protection District to determine specific needs for fire protection when a particular development proposal is reviewed and ensure the District's needs are met.	LS
<b>Schools-1:</b> Development consistent with the updated General Plan would increase the number of students served by the West Contra Costa Unified School District. This would be a significant impact.	<b>Circulation, Public Facilities and Services Element Policies and Actions CF 2.5</b>	None identified.	<b>Schools-1a:</b> The City will not issue future legislative development approvals unless adequate school facilities are available or adverse impacts upon school facilities have been mitigated to the maximum extent legally feasible. The City shall promptly notify the West Contra Costa Unified	S

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p>School District of all applications for approval of specific development projects with the potential for a significant impact on schools. The City will coordinate with the School District to develop appropriate project-specific mitigation measures. The City will give careful consideration to the School District's analysis of proposed mitigation. For specific development proposals that require legislative action (e.g., General Plan Amendment, adoption of Specific Plan, amendment to Zoning</p>	
			<p>Ordinance) and that have a substantial effect on school facilities through a projected increase in enrollment, the City shall enter into consultation with the School District and the project proponent(s) to determine whether there can be determined a mutually agreeable contribution to the school district by the proponent(s) (including, but not limited to cash payment, land dedication, and/or provision of school facilities) to offset the impacts of increased enrollment.</p>	
			<p><b>Schools-1b:</b> For new developments having a significant impact on school facilities, the City shall take steps to ensure that developers coordinate with the District (via the City) regarding timely and proper submittal of the required development impact fees. The City shall review development proposals and determine whether it believes any additional mitigation recommended by the West Contra Costa Unified School District to be warranted.</p>	



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p><b>Schools-1c:</b> In consultation with the West Contra Costa Unified School District, the City will seriously evaluate all available options for enhancing school financing, such as negotiating development agreements and redevelopment agreements providing for payment of additional school impact fees, participation in a Mello-Roos district for property proposed for development, and working with the School District and property owners to arrange donation or reservation of land for an elementary school site. The City shall work with the School District to negotiate an agreement whereby the School District commits to expending fees received from development within San Pablo for facilities within City boundaries to the maximum extent legally feasible.</p>	
<p><b>Wastewater-1:</b> Development consistent with the updated General Plan would increase the demand for wastewater treatment. This would be a significant impact.</p>	<p><b>Circulation, Public Facilities and Services Element Policies and Actions CF 3.1, 3.A, 3.B, 3.C</b></p>	<p><b>Growth Management Element Policies P3.1, P.3.4</b></p>	<p>None required.</p>	<p>LS</p>

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<p><b>Water-1:</b> Development consistent with the updated General Plan would increase demand for potable water and could require additional delivery and/or storage facilities. This would be a significant impact.</p>	<p><b>Circulation, Public Facilities and Services Element Policies and Actions CF 3.1, 3.A, 3.B, 3.C</b></p> <p><b>Environmental Resources Management Element Action ER 1.A</b></p>	<p><b>Growth Management Element Policies P3.1, P.3.4</b></p>	<p><b>Water-1a:</b> The City shall include the following actions in the in the Circulation, Public Facilities and Services Element of the updated General Plan:</p> <ul style="list-style-type: none"> <li>• The City will practice water conservation in the management of parks and the requirements for landscape design development.</li> <li>• The City will encourage the installation of dual plumbing systems in large developments to accommodate future use of reclaimed wastewater for non-domestic purposes such as landscape irrigation, commercial and industrial process uses and toilet flushing in non-residential buildings.</li> </ul> <p><b>Water-1b:</b> The City shall adopt by reference or through individual policy EBMUD's Water Conservation Master Plan such as the installation of low-flush toilets and other low-flow plumbing fixtures for new residential and commercial development.</p>	<p>LS</p>

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<p>Note: Section IV.F also includes a discussion of less-than-significant impacts.</p> <p><b>IV.G Hazardous Materials</b></p>				
<p><b>Hazard-1:</b> Cleanup of hazardous materials or wastes currently in the project area could pose a threat to workers or the environment. This would be a significant impact.</p>	<p><b>Public Safety and Related Services Element Policies and Actions PS 1.3, 1.A, 1.B</b></p>	<p>None identified.</p>	<p><b>Hazard-1a:</b> At every potentially contaminated location to be developed within the City, the project applicant shall have the site inspected by a Registered Environmental Assessor (i.e. a professional environmental scientist or engineer registered as an REA in California) for the presence of hazardous materials and wastes.</p> <p>The investigations shall take the form of environmental audits, and shall include, at minimum, site inspections for hazardous materials, examination of historic records, and reviews of public agency records. Reports detailing the results of the inspections shall be submitted to the City for review. The report preparer shall either certify that the site is free of hazards or recommend preparation of a site mitigation plan.</p>	<p>LS</p>



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p>The City shall make certain that inspection reports are on file prior to project approval and prior to any excavation or construction. Acceptance of the site inspection report shall allow the proposed development to proceed to the permitting stage. All activities under this mitigation shall be done in conformance with the policies and procedures presented in Chapter 11 of the CHWMP.</p> <p><b>Hazard-1b:</b> In the event that a site inspection done for Mitigation Measure Hazard-1a uncovers chemical contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes at a parcel, the inspection report preparer shall so notify the City and other agencies, as applicable, potentially including the state Department of Toxic Substances Control, the Regional Water Quality Control Board, and/or the County Health Services Department. The City would also notify the proper agencies, as required by law. Under the direction of the appropriate agencies, a site remediation plan shall be prepared by the project applicant, in accordance with applicable regulations.</p>	

S=Significant; LS=Less than Significant

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p>The plan would (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards and (2) certify that the proposed remediation measures would clean up the wastes, dispose the wastes, and protect public health in accordance with federal, State, and local requirements. Permitting or work in the areas of potential hazard shall not proceed until the site remediation plan is on file with the City.</p> <p>If a parcel is found to be contaminated to a level that prohibits the proposed use, the potential for reduction of the hazard should be evaluated. Site remediation is theoretically capable of removing hazards to levels sufficiently low to allow any use at the site. In practice, both the technical feasibility of the remediation and its cost (financial feasibility) should be evaluated in order to determine the overall feasibility of locating a specific use on a specific site. In some cases, it may be found that a site may be appropriate for any use; in other cases, a site may require restriction to industrial use or a use that involves complete paving and covering of the parcel.</p>	

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p>In accordance with OSHA requirements, any activity performed at a contaminated site shall be preceded by preparation of a separate site health and safety plan (prepared by the project applicant and filed with the City) for the protection of workers and the public. All reports, plans, and other documentation shall be added to the administrative record. All activities under this mitigation shall be done in conformance with policies and procedures presented in Chapter 11 of the CHWMP.</p> <p><b>Hazard-1c:</b> For the Superfund site at 3002 Giant Road (American Standard Products), the City shall obtain copies of closure reports prepared by Cal-EPA certifying that the property has been remediated and poses no threats to public health. Because of ongoing cleanup activity under the jurisdiction of Cal-EPA, the measures identified in Hazard-1b may not be necessary for the American Standard site. This measure is included to provide assurance to the City that the site has been remediated to a level that will allow development.</p>	

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Hazard-2:</b> Pipelines carrying hazardous materials through the City could pose a threat to occupants or residents should adjacent areas be developed. This would be a significant impact.	None identified.	None required.	<p><b>Hazard-2a:</b> Consistent with pipeline operators' standards, no buildings or other structures that could impede access shall be installed in any pipeline right-of-way.</p> <p><b>Hazard-2b:</b> Prior to the start of construction on any parcel that includes or is bordered by a pipeline or pipeline right-of-way or easement, the City shall consult with the Fire Protection District and the operator(s) of affected pipeline(s) regarding the adequacy of safety procedures for pipeline accidents.</p>	LS
<b>Hazard-3:</b> Development consistent with the updated General Plan would indirectly allow for the potential increased handling of hazardous materials and the potential increased generation of hazardous wastes by industrial and commercial facilities occupying areas of the City designated and zoned for such uses. This impact would be significant.	<b>Public Safety and Related Services Element Policies and Actions PS 1.L, 1.D</b>	None identified.	<p><b>Hazard-3a:</b> The City shall ensure that use, storage, and handling of hazardous materials by businesses and industries within the project area is done in compliance with applicable City policies as well as and State and local laws, guidelines, and regulations. (This measure could be implemented through the City's permitting process and/or inspection mechanisms.)</p> <p><b>Hazard-3b:</b> Residents adjacent to new hazardous materials handling facilities shall be notified immediately by the City emergency response organizations of any accidental occurrences such as spills, leakages, or eruptions which may affect the health, safety and welfare of the public. (This measure could be tied into the City's updated Multi-Hazard Functional Plan.)</p>	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
II.29	<p>Note: Section IV.G also includes a discussion of less-than-significant impacts.</p> <p><b>IV.H Cultural Resources</b></p> <p><b>Cultural-1:</b> Development consistent with the updated General Plan could result in damage to known or unknown prehistoric or historic archaeological resources. This would be considered a significant impact.</p>	<p>Environmental Resources Management Element Policies and Actions ER 1.31, 1.32</p>	<p><b>Hazard-3c:</b> New businesses in the project area shall be required to install their temporary hazardous waste storage areas on paved, impermeable surfaces with drainage controls and spill containment features.</p> <p><b>Hazard-3d:</b> Waste stored temporarily at generator facilities shall be segregated by hazard category and stored in individual, sealed storage containers. Separate containers shall be used for flammables, acids, bases, poisons, and reactive wastes.</p>	
			<p><b>Cultural-1a:</b> The City shall condition approval of individual development proposals in areas known to have cultural resource potential (as identified on the maps on file with the City) and incorporate the following mitigation program (which shall be conducted under the guidance of Appendix K of the CEQA Guidelines):</p> <ul style="list-style-type: none"> <li>• Prior to excavation and construction, the prime construction contractor and any subcontractor(s) would be cautioned on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts, human remains, bottles, and other cultural materials from the project site.</li> </ul>	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<ul style="list-style-type: none"> <li>• The project sponsor would identify a qualified archaeologist prior to any demolition, excavation, or construction in areas known to have cultural resource potential. The City would approve the project sponsor's selection for a qualified archaeologist. The archaeologist would have the authority to temporarily halt excavation and construction activities in the immediate vicinity (ten-meter radius) of a find if significant or potentially significant cultural resources are exposed and/or adversely affected by construction operations.</li> <li>• Reasonable time would be allowed for the qualified archaeologist to notify the proper authorities for a more detailed inspection and examination of the exposed cultural resources. During this time, excavation and construction would not be allowed in the immediate vicinity of the find; however, those activities could continue in other areas of the project site.</li> <li>• If any find were determined to be significant by the qualified archaeologist, representatives of the project sponsor, the City, the qualified archaeologist, and a representative of the Native American community (if the discover is an aboriginal burial) would meet to determine the appropriate course of action.</li> </ul>	

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<ul style="list-style-type: none"> <li>• All cultural materials recovered as part of the monitoring program would be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.</li> </ul> <p><b>Cultural-1b:</b> If previously unknown subsurface cultural resources are discovered during excavation activities in areas of the City of San Pablo not covered by Mitigation Measure Cultural 1-a, excavation would be temporarily halted and an archaeologist consulted as to the importance of the resources. Should the archaeologist determine that the resources are important, the project sponsor would follow the procedure described in Cultural-1a, above.</p>	
<b>Cultural-2:</b> Development consistent with the updated General Plan could result in damage to known historical resources. This would be considered a significant impact.	<b>Environmental Resources Management Element Policies and Actions ER 1.31, 1.32, 1.W, 1.X, 1.Y, 1.Z, 1.AA, 1.BB, 1.CC, 1.DD, 1.EE</b>	None identified.	<p><b>Cultural-2:</b> The City shall incorporate the following action into the Environmental Resources Management Element of the updated General Plan:</p> <p>In the event that a federally- or State-listed historical property cannot be avoided or relocated in the development of a site, the City shall conduct an "Historic American Building Survey" for the structure. Such a procedure involves the precise recording of the structure through measurements, drawings, and photographs. The documentation of the resource is on standardized forms and is accurate in detail to such an extent that after demolition, the historical structure could be</p>	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			reconstructed from the survey data. Copies of the documents should be filed with all appropriate agencies.	
<b>IV.I Hydrology and Water Quality</b>				
<b>Hydrology-1:</b> Development consistent with the updated General Plan would place structures and an increased population in areas already subject to 100-year flooding. Additionally, construction of new impermeable surfaces could increase runoff and contribute to flooding. This would be a significant Citywide and regional impact.	<b>Public Safety and Related Services Element Policies and Actions PS 1.1, 1.2, 1.3, 1.A, 1.B, 1.C, 1.D, 1.E, 1.G, 1.J, 1.K</b>  <b>Environmental Resources Management Element Policies and Actions ER 1.3, 1.4, 1.6, 1.E</b>  <b>Circulation, Public Facilities and Services Element Policies and Actions CF 3.1, 3.C</b>	<b>Growth Management Element Policies P3.1 through P3.5</b>	<b>Hydrology-1a:</b> The City shall prepare storm drainage development standards prior to development consistent with the updated General Plan (that would exceed the capacity of the system). This is an important measure since new drainage and pollution prevention and control infrastructure would have to be built to accommodate the increase in runoff.  <b>Hydrology-1b:</b> For development consistent with the updated General Plan, runoff increase calculations at full build-out should be measured against estimates of existing runoff to ensure that no flooding would result. If hydrologic models indicate that on- or off-site flooding could result from full build-out of development, flood retardation measures should be incorporated into development plans that would eliminate the increase in flooding potential. Such measures could include detention basins, grassy swales, and vegetated drainage channels.	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p><b>Hydrology-1c:</b> Action PS 1.G of the Public Safety and Related Services Element should be amended to include: Finished floor elevation of all development consistent with the updated General Plan must be at least one foot above the 100 year flood elevations prescribed on the Flood Insurance Rate Map.</p> <p><b>Hydrology-1d:</b> Policy 1.3 of the Public Safety and Related Services Element should be amended to include the following: In order to protect lives and property, development consistent with the updated General Plan should not be permitted unless flood protection in such areas is constructed to the standards of the Flood Disaster Protection Act of 1973.</p>	
<p><b>Hydrology-2:</b> Development consistent with the updated General Plan could result in increased non-point-source and point-source contamination of surface waters, and subsequently affect groundwater quality, from common urban sources, construction activity and vehicle use. This would be a significant Citywide and regional impact.</p>	<p><b>Environmental Resources Management Element Policies and Actions ER 1.18, 1.19, 1.K, 1.L, 1.M, 1.N, 1.O</b></p>	None identified.	<p><b>Hydrology-2a:</b> Develop a Master Water Quality Control Plan consistent with the Contra Costa Cities/County/District Stormwater Pollution Control Plan for the City, including measures to clean up existing contaminated water resources, to identify and remove or mitigate existing sources of pollution, and to develop ways of preventing further contamination such as specific water treatment policies for industries and retention basins for surface runoff carrying roadway contaminants. The Master Water Quality Control Plan should be a more comprehensive document than the Storm Water Management Plan, dealing with groundwater and infrastructure issues in addition to stormwater. Such a plan must be approved by the City Engineer and should be reviewed by the</p>	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p>Regional Water Quality Control Board and State Department of Water Resources for correctness and thoroughness, prior to implementation.</p> <p><b>Hydrology-2b:</b> As part of Groundwater - Action 1.O, continue to use and develop additional best management practices (BMPs) for City facility managers, institutional managers, land developers and businesses to follow.</p> <p>Implementation of best management practices by the City, developers and businesses would further help to mitigate this impact. (The City has already selected a number of BMPs as part of its SWMP.) Such practices may include, but are not limited to [items listed in Section IV.I].</p> <p><b>Hydrology-2c:</b> As part of Groundwater Action 1.O, develop a set of design guidelines for City facilities, institutions, land development, and transportation systems to follow for improving runoff water quality. Design considerations may include, but are not limited to the [actions listed in Section IV.I].</p>	

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>IV.J Landform, Geology, Soils and Seismicity</b>				
<b>Geology-1:</b> Development consistent with the updated General Plan would increase the number of people exposed to the area's earthquake hazards and would involve construction of structures and facilities in an earthquake-prone area, characterized by a high probability of strong ground shaking. Strong ground shaking poses a threat to the structural integrity of all developed structures in the City, and thereby poses a life-safety hazard to people occupying or near developed structures. Ground shaking further would be expected to result in significant damage to older structures, such that cumulative impacts would be substantial. This would be considered a significant impact.	<b>Public Safety and Related Services Element Policies and Actions PS 1.1, 1.2, 1.3, 1.A, 1.B, 1.C, 1.D, 1.E, 1.F, 1.G, 1.H, 1.I</b>	None identified.	<b>Geology-1a:</b> Adopt a policy of requiring seismic upgrades for any building for which an application for a change of use that would allow a higher level of occupancy (a change in occupancy class, or land use category) is requested or for which is proposed substantial use/handling/storage of hazardous substances.	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Geology-2:</b> Development consistent with the updated General Plan would increase the number of persons exposed to risk of injury, death or property damage resulting from surface fault rupture. The impact is significant.	<b>Public Safety and Related Services Element Policies and Actions PS 1.1, 1.2, 1.3, 1.A, 1.B, 1.C, 1.D, 1.E, 1.F, 1.G, 1.H, 1.I</b>	None identified.	<p><b>Geology-2a:</b> No new critical facility or new residence should be permitted in areas subject to ground rupture (i.e., within the Alquist-Priolo Special Studies Zone) until an evaluation of alternative sites with reduced earthquake and flood hazards is completed. In areas outside the Special Studies Zone but subject to ground failure (especially liquefaction and landsliding), require studies assessing the specific degree of hazard and identifying measures to reduce the hazard to an acceptable level, and require that these measures be implemented prior to development. For each proposal, require a feasibility study to determine whether any proposed critical facilities (emergency response centers, police stations, and hospitals) and schools could be sited in areas with lesser earthquake hazards. An alternative site feasibility assessment should include a consideration of sites in areas with lesser earthquake (and flood) hazards in addition to considerations of service area, accessibility, and economic considerations.</p> <p><b>Geology-2b:</b> For projects proposed in areas subject to ground rupture and ground failure, and especially those that would concentrate people in large numbers or involve the use/handling/storage of a substantial amount of hazardous substances, conduct geotechnical studies and structural design evaluations for all structures and facilities.</p>	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p>If the alternative site feasibility study for a facility were to indicate that other less hazardous sites are not available for it, then geotechnical studies and structural design processes for the facility would be conducted in compliance with State of California requirements and recommendations of the Seismic Safety Commission and federal requirements as applicable. These could include detailed studies of the geologic materials at the site, location of nearest fault traces, seismic event response evaluations to identify design criteria, foundation design criteria and dynamic method analyses of proposed structures, and others. As these studies are costly and the resulting foundation and structural designs are often expensive to construct, it is recommended that the alternative site feasibility study be conducted first.</p> <p>A rigorous geotechnical evaluation and structural design process would be required to ensure that the proposed structures would perform in major earthquakes without creating a life safety hazard to occupants or people in surrounding areas.</p> <p><b>Geology-2c:</b> Consistent with State law, require a site-specific soils investigation for every new development in the Alquist-Priolo Earthquake Fault Zone (where required by the Alquist-Priolo Special Studies Zone Act) with review by the California Division of Mines and Geology.</p>	

S=Significant; LS=Less than Significant

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			<p><b>Geology-2d:</b> As part of Policy PS 1.2, integrate into the Multi-Hazard Functional Plan a critical facilities and lifeline systems vulnerability study for the entire City to deal with the specific effects of seismic-induced ground rupture in the Alquist-Priolo Zone, and ground shaking, liquefaction, lateral spreading/lurching and landslide hazards elsewhere in the City. The study should identify specific facilities and their vulnerabilities to damage, the implications for emergency response and normal operations, and recommendations for upgrades, redesign or relocation planning. The study should be coordinated with EBMUD, PG&amp;E, and telecommunication companies.</p> <p><b>Geology-2e:</b> In accordance with State mandates, assure that the possibility of fault movement is considered in the design of all roadways and utility lines, including gas and oil, which must be crossed through, and all important facilities which must be located within the Alquist-Priolo Earthquake Fault Zone.</p>	

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<p><b>Geology-3:</b> Development consistent with the updated General Plan would increase the number of people and structures exposed to unstable soils including those subject to earthquake induced liquefaction, lateral spreading and landslides. Development consistent with the updated General Plan in some upland areas could result in changes in topography and construction on steep slopes in some areas that would enhance landslides or mudslides. This would be a significant impact.</p>	<p><b>Public Safety and Related Services Element Policies and Actions PS 1.1, 1.2, 1.3, 1.A, 1.B, 1.C, 1.D, 1.E, 1.F, 1.G, 1.H, 1.I</b></p> <p><b>Environmental Resources Management Element Action ER 1.F</b></p>	None identified.	<p><b>Geology-3a:</b> Site new structures away from steep hillsides and the toes of existing landslide surfaces, reducing the potential for damage from landslide movement or burial. Require developers of projects in the hazard area to perform site-specific slope stability analyses, including field estimation of the soil properties significant to slope stability, for those parcels or portions thereof identified as having the steepest slopes or greatest potential for landslides and recommended engineering design to reduce the hazard to an acceptable level of risk. The report should be approved by the City Geologist prior to permitting the project.</p> <p><b>Geology-3b:</b> Development consistent with the updated General Plan shall minimize the potential for creating new landslides or reactivating old ones.</p> <p><b>Geology-3c:</b> As part of Policy 1.2, prepare or update an Earthquake Preparedness and Emergency Response Plan for the City to deal with the specific effects of seismic-induced liquefaction, lateral spreading, landsliding, fault rupture, and ground shaking.</p>	LS
<p><b>Geology-4:</b> Development consistent with the updated General Plan could expose people and structures to the hazard of inundation from dam failure. This would be a significant impact.</p>	<p><b>Public Safety and Related Services Element Policies and Actions PS 1.1, 1.2, 1.3, 1.A, 1.B, 1.C, 1.D, 1.E, 1.F, 1.G, 1.J, 1.K</b></p>	None identified.	None required.	LS

S=Significant; LS=Less than Significant

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<p><b>Geology-5:</b> Development consistent with the updated General Plan could accelerate natural erosion of native soils and fill by wind and water. If uncontrolled, increased erosion could undermine structures and eroded soils could increase sedimentation in area creeks and eventually in San Pablo Bay. This would be considered a significant impact.</p> <p>Note: Section IV.J also includes a discussion of less-than-significant impacts.</p>	See Hydrology-2.	See Hydrology-2.	See Hydrology-2.	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>IV.K Air Quality</b>				
<b>Air-1:</b> Fugitive dust generated by construction and demolition activities under the updated General Plan could result in health and nuisance-type impacts in the immediate vicinity of individual construction sites. This would be a significant impact.	None identified.	None identified.	<p><b>Air-1a:</b> The City shall condition approval of individual development proposals on implementation of an appropriate dust abatement program, patterned on the BAAQMD approach described below (BAAQMD, 1995b). In addition to general construction dust abatement measures, where a specific development proposal would entail the demolition of a building containing asbestos building materials, the City shall require that project sponsors consult with BAAQMD concerning the specific requirements of BAAQMD Regulation 11, Rule 2.</p> <p>The BAAQMD approach to dust abatement calls for "basic" control measures that should be implemented at all construction sites, "enhanced" control measures that should be implemented at construction sites greater than four acres in area, and "optional" control measures that should be implemented on a case-by-case basis at construction sites that are large in area, located near sensitive receptors or which, for any other reason, may warrant additional emissions reductions. The basic, enhanced, and optional dust control programs are described in Appendix F of this EIR.</p>	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Air-2:</b> Increased traffic due to development under the updated General Plan could add to congested conditions on the local roadway network, resulting in CO "hot spots" at congested intersections. This would be a significant impact.	See Transportation for Policies and Actions from the Circulation, Public Facilities and Services Element of the updated General Plan that would help to reduce congestion, and would also tend to reduce the potential for CO "hot spots" at congested intersections in the City.  <b>Circulation, Public Facilities and Services Element Policies and Actions CF 1.5, 1.A</b>	See Transportation for policies and actions from the Growth Management Element that promote adherence to established LOS standards, and would also help to reduce the potential for CO impacts.	<b>Air-2a:</b> Through its CEQA review process, the City shall use the BAAQMD's approach set forth in their latest <i>CEQA Guidelines</i> document to identify, evaluate, and remedy CO "hot spots" resulting from development proposals. The current BAAQMD approach (as set forth in their Draft <i>Guidelines</i> , 1995b) [is described in Section IV.K].	LS
<b>Air-3:</b> Additional development under the updated General Plan would contribute incrementally to regional O <sub>3</sub> concentrations. This impact would be less than significant.	<b>Environmental Resources Management Element Policies and Actions ER 1.12, 1.13, 1.14, 1.15, 1.H, 1.I</b>  <b>Circulation, Public Facilities and Services Element Policies and Actions CF 1.2, 1.14, 1.15, 1.16, 1.17, 1.18, 1.C, 1.D, 1.M, 1.N, 1.O, 1.P, 1.Q, 1.R, 1.S</b>	See Transportation for policies and actions from the Growth Management Element that promote adherence to established LOS standards; these policies are also related to TCMs and would help to ensure that the impact is less than significant.	<b>Air-3a:</b> Through its CEQA review process, the City shall use the BAAQMD's CEQA significance criteria for evaluating the air quality impacts of individual development proposals. The current version of the significance criteria is set forth in their Draft <i>CEQA Guidelines</i> (BAAQMD, 1995b).  <b>Air-3b:</b> The City shall consider requiring that applicants who seek to operate new commercial or industrial facilities in San Pablo demonstrate compliance with BAAQMD Rules and Regulations.	LS
<b>Air-4:</b> Proposed development under the updated General Plan could result in the exposure of sensitive receptors to new sources of odors. This would be a less-than-significant impact.	<b>Environmental Resources Management Element Policy ER 1.16</b>	None identified.	None required.	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Air-5:</b> New residential development under the updated General Plan could result in the exposure of sensitive receptors to toxic air contaminants. This would be a significant impact.	<b>Environmental Resources Management Policy ER 1.16</b>	None identified.	<b>Air 5a:</b> The City shall discourage development of sensitive land uses (e.g. residences, schools, hospital, day care centers) where 1) such use would be exposed to an incremental cancer risk from stationary sources in the vicinity of 10 in one million or greater (as identified in the annual BAAQMD report on toxic air contaminants, or through consultation with BAAQMD to determine where health risk assessments have been required) or where 2) such use would lie within the Emergency Response Planning Guidelines (ERPG) Exposure Level 2 for a given industrial facility. These criteria can also be used in implementing <b>Air Quality Policy ER 1.16: Siting Criteria</b> described above. (The City could coordinate with Contra Costa County to obtain information on certain industrial facilities.)	LS

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>IV.L Noise</b>				
<b>Noise-1:</b> Development consistent with the updated General Plan would result in temporary noise impacts related to construction activities. This would be a short-term significant impact.	<b>Public Safety and Related Services Element Policies and Actions PS 4.G, 4.I</b>	None identified.	<p><b>Noise-1a:</b> The City shall revise its draft policy regarding limitations on hours of construction to account for more-sensitive weekend periods and to account for available construction noise abatement techniques:</p> <p><b>Action 4.I.: Construction Noise Limitations:</b> Limit hours for all construction or demolition work where site-related noise is audible at sensitive land uses beyond the site boundary; specify permitted construction and or demolition hours in the Community Noise Ordinance. Typically, projects are conditioned upon a guarantee of no work between 9:00 p.m. and 7:00 a.m., weekdays, and between 5:00 p.m. and 9:00 a.m., weekends and holidays. In addition, require that internal combustion engines be equipped with a properly operating muffler of a type recommended by the manufacturer and that impact tools be shielded per manufacturer's specifications.</p>	LS
<b>Noise-2:</b> New development under the updated General Plan could increase ambient noise levels at nearby residential areas by introducing new non-transportation noise sources into the area. This would be a significant impact.	<b>Public Safety and Related Services Element Policies and Actions PS 4.1, 4.3, 4.C</b>	None identified.	None required.	LS



TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
<b>Noise-3:</b> Under the updated General Plan, new noise-sensitive uses could be developed in areas where noise levels are unacceptable for such uses. This would be a significant impact.	<b>Public Safety and Related Services Element Policies and Actions PS 4.1, 4.3, 4.A, 4.E</b>	None identified.	None required.	LS
<b>Noise-4:</b> New transportation facilities developed under the updated General Plan could substantially increase ambient noise levels for adjacent uses. This would be a significant impact.	<b>Public Safety and Related Services Element Actions PS 4.F, 4.L</b>	None identified.	None required.	LS
Note: Section IV.L also includes a discussion of less-than-significant impacts.				

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES (Continued)

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE UPDATED GENERAL PLAN	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
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**M. Energy**

**Energy-1:** Energy consumption in San Pablo would increase due to development under the updated General Plan. This would be a significant impact.

**Environmental Resources Management Element Policies and Actions ER 1.28, 1.29, 1.30, 1.U, 1.V**

None identified.

None required.

LS

Note: Section IV.M. also includes a discussion of less-than-significant impacts.

S=Significant; LS=Less than Significant

SOURCE: Environmental Science Associates, Inc.

### III. PROJECT DESCRIPTION

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#### A. PROJECT LOCATION

##### REGIONAL SETTING

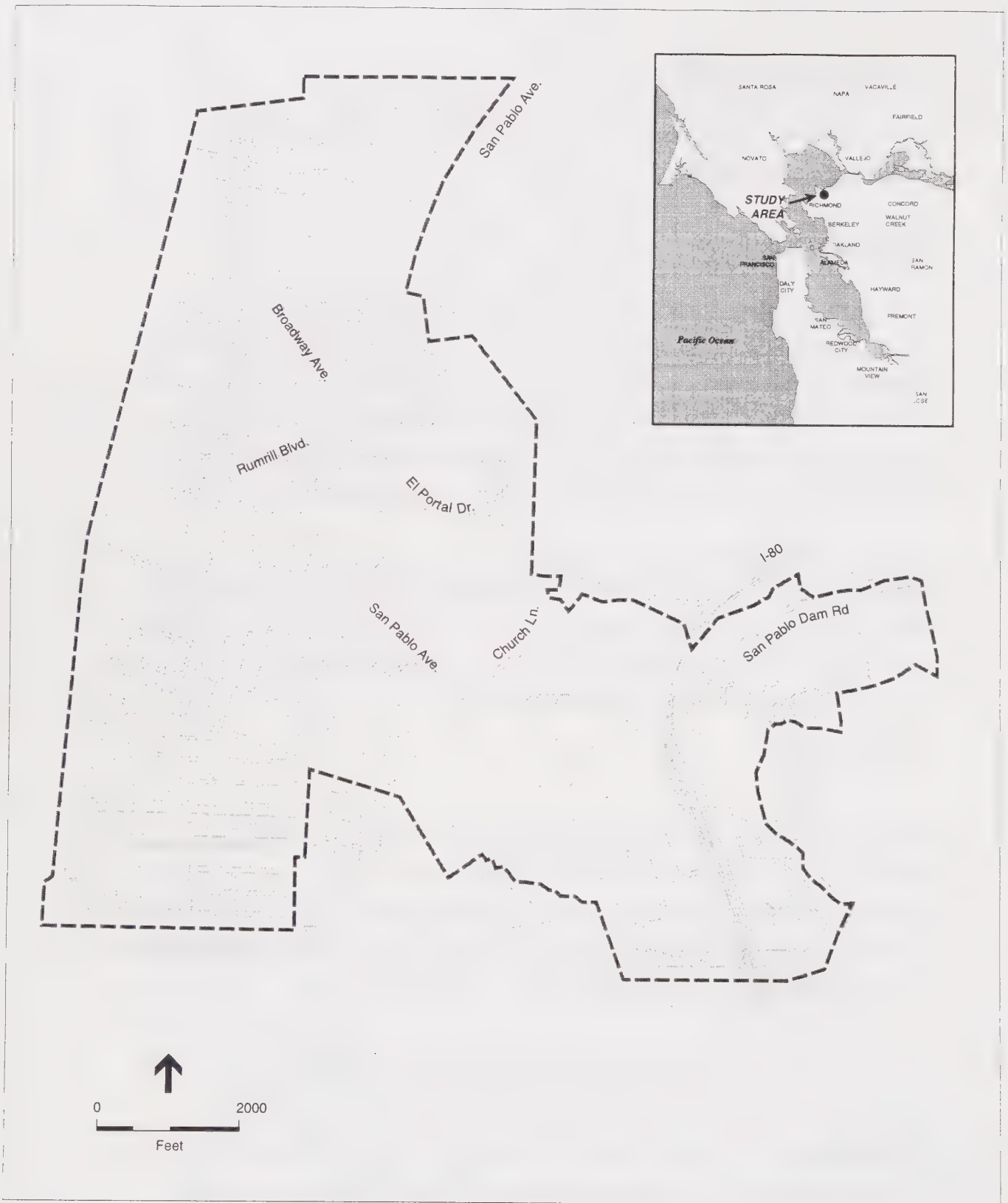
The City of San Pablo is part of what is considered the "West County" area of Contra Costa County, which includes the urbanized shoreline of the San Francisco and San Pablo Bays and is separated from the rest of Contra Costa County by the Briones Hills and open space lands. The other distinct areas within Contra Costa County include Central County, which includes the communities between the East Bay Hills and the Diablo Range; and East County, which is predominantly rural, with increasing suburban development (Contra Costa County, 1991).

Roads of regional significance within the San Pablo city limits include portions of Interstate 80 (I-80), San Pablo Avenue, El Portal Drive, Rumrill Boulevard, and San Pablo Dam Road. Facilities of regional significance within the San Pablo city limits include Brookside Hospital and Contra Costa College. The City is accessed from the north and south by I-80, and from the west by I-580 across the Richmond-San Rafael bridge.

##### LOCAL SETTING

The City of San Pablo is located along I-80 and is inland from the east side of San Pablo Bay. The City is bounded predominantly by the City of Richmond; the unincorporated community of El Sobrante is located to the north and south of the eastern extension of San Pablo. Other unincorporated areas in Contra Costa County are located north, east, and west of the City. The northern tip of Wildcat Canyon Park abuts the City's southeastern border.

Figure III.1 shows the City boundaries and regional location. The City of San Pablo encompasses about 2.6 square miles. The City's Sphere of Influence (SOI) refers to unincorporated areas that may be ultimately annexed and served by the City. These unincorporated areas are currently under County jurisdiction. The City's SOI encompasses the Rollingwood residential area, which is located along El Portal Drive and I-80 at the City's northeastern border; and the Hillside neighborhood, which is adjacent to the northern boundary of Alvarado Park at the eastern edge of the City. The Planning Area includes the city



SOURCE: Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

**Figure III.1**  
Project Location

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates



boundaries, SOI, and areas that bear some relation to the City's planning activities (State of California, 1990). The San Pablo Planning Area extends to the limits of the SOI.

Most of the City's land area is west of I-80, which runs north-south through the city. San Pablo, Wildcat, and Rheem Creeks extend through the city from east to west. Approximately 63 percent of the City's land is residential, including single- and multi-family homes as well as mobile home parks. Low-density residential uses are located throughout the city, mostly away from commercial areas and major streets. Existing commercial uses include (among others) shopping centers, fast food franchises, and storage facilities; these uses are concentrated along San Pablo Avenue, El Portal Drive, Rumrill Boulevard, 23rd Street, and San Pablo Dam Road. Several major retail tenants have recently left the City. Casino San Pablo, a cardroom that opened in December 1995, is a major regional commercial use at the intersection of San Pablo Dam Road and San Pablo Avenue. The city has relatively few industrial uses and two regional public facilities, Brookside Hospital and Contra Costa College. The city is highly urbanized and contains few areas of undeveloped land.

#### **B. PROJECT OBJECTIVES**

The General Plan is considered to be the "constitution" for growth within cities and counties in California. The pattern of land use and image of the community are outlined within the General Plan and its respective elements. The existing San Pablo *General Plan* includes the following Elements, with most recent amendment date(s) shown in parenthesis: Public Facilities Element (January 1972), Beautification Element (January 1972), Open Space and Conservation Element (October 1973), Seismic Safety Element (October 1973), Public Safety Element (May 1976), Scenic Highways Element (May 1976), Noise Element (May 1976), Land Use Element (October 1980), Circulation Element (October 1980), Housing Element (February 1992), and Growth Management Element (April 1992).

Since the last complete update of the *General Plan* occurred, the City has operated under a number of fragmented plans and policies as dictated by local, regional, and State requirements. The City has determined that a comprehensive update of the *General Plan* is needed in order to achieve consistency with certain zoning designations, local and regional planning programs, and the requirements of local, State, and Federal laws and regulations. The updated General Plan also addresses changed land use patterns that have occurred over the years. The San Pablo updated General Plan is also intended to encourage economic development and redevelopment.

The Housing Element and Growth Management Element, which were adopted in 1992, are not included in this updated General Plan. The proposed project proposes to update and consolidate the remaining General Plan Elements to form four new elements: Land Use, Economic Development, and Community Design; Circulation, Public Facilities and Services; Public Safety and Related Services; and Environmental Resources Management (such consolidation is allowed by State law). These elements, along with the approved Housing Element and Growth Management Element, would address all of the issues required by State law, plus others that are of particular concern to San Pablo.

#### LAND USE, ECONOMIC DEVELOPMENT, AND COMMUNITY DESIGN ELEMENT

The City of San Pablo formed a updated General Plan Team to identify current land use issues to be addressed in the updated General Plan. Concerns identified by the General Plan Update Team ranged from revitalizing City neighborhoods to fostering economic development and redevelopment to help provide jobs, services and City revenue that would provide a balance to existing residential development in the City (General Plan Update Team, 1995). The recent loss of many of the City's sales tax revenue generators has put a burden on the City's ability to provide adequate services. The proposed Land Use, Economic Development, and Community Design Element is intended to change existing policies and land use designations in order to provide a mix of uses that will help support present and future service demands on the City.

The Land Use component of this element is the core of the General Plan and establishes a framework of objectives and implementing policies that will guide the community's physical form and growth throughout the next twenty years. The basic intent of the Preferred Land Use Plan, and corresponding land use designations, is to draw together all of the physical, economic, social and environmental features of the City into a 20-year vision of the future. Correspondingly, the Preferred Land Use Plan assists the community, business and decision makers with programs and activities for the growth and sustainability of San Pablo.

The Community Design component of this element is intended to identify the City's unique physical layout, and to set forth general policies and implementing actions to preserve and enhance these resources. Proposed design policies are intended to provide guidance to be implemented and refined through subsequent project-specific reviews and the establishment of city-wide design related programs. This component seeks to enhance the City's existing positive attributes, which include the small town character, historic buildings, regional location and walkable scale.

The City, after public hearings and debate, has incorporated the General Plan Update Team's recommendations within the proposed Land Use, Economic Development, and Community Design Element. The City-wide goals of the element include:

- **Land Use Safety:** To enhance the safety of the community through the establishment of development standards and the implementation of logical land use patterns.
- **Land Use and Public Transportation:** To encourage the expansion of public transportation systems and maximize the ridership on those systems, as well as to establish and place land uses which are complementary to public transportation.
- **Redevelopment:** To expedite the City's redevelopment efforts in a manner which is consistent with the City's vision of the future, and to utilize redevelopment as a land use tool to implement this vision.
- **Quality of Life:** Achieve a physical and social land use balance which incorporates quality of life issues with economic vitality and increased employment opportunities.
- **Economic Vitality ("Economic Development"):** To enhance the City's economic base by encouraging and planning the development of land uses which have a positive fiscal impact upon the City's revenues.
- **Image Enhancement:** Through regional and local advocacy, the City shall commit to creating an image (both real and perceived) of San Pablo that focuses on being a safe and viable business environment, providing opportunities for home ownership and offering a place to raise families in a diverse environment of mixed incomes and multiple cultures.
- **Civic Pride:** To instill a sense of ownership, community pride and civic respect with the City as a means of improving the safety and image of the community.

These goals (as well as goals specific to each of the proposed Mixed Use Districts) are the impetus for the related and more detailed policies and programs of the Land Use, Economic Development, and Community Design Element, and the City's Land Use Plan redesignations. The City hopes to implement its outlined goals through the incorporation of redefined land uses and building densities. The Land Use component and accompanying Land Use Map provide general designations for the redefined land uses, and policies in the Land Use, Economic Development, and Community Design and other General Plan Elements provide general guidance for development City-wide and within each Mixed Use District.



## CIRCULATION, PUBLIC FACILITIES AND SERVICES ELEMENT

The draft Circulation, Public Facilities and Services Element, which combines the Circulation Element and the Public Facilities Element contained in the current *General Plan*, is intended to implement the standards identified in the City's approved Growth Management Element, and to serve as a reference point for agreement between the City and regionally-oriented policies. The element provides a framework to guide transportation- and infrastructure-related decision making over the next 20 years.

The general objective of the Circulation portion of the updated element is to advocate for local and regional transportation enhancements. More specifically, the element:

- identifies the City's present and future transportation needs (internal and regional vehicular circulation);
- describes potential improvements to the existing circulation system;
- advocates for inclusion in future regional transportation solutions;
- considers pedestrian and mass transit alternatives for city-wide and district mobility;
- establishes policies which coordinate the circulation system with planned future land uses and provide direction for future decision-making; and
- develops implementation strategies to provide for the timely implementation of the Circulation Element's recommendations.

The Public Facilities component of the draft Circulation, Public Facilities and Services Element is intended to establish and coordinate the infrastructure and public facilities within the City. The Public Facilities component contains policies related to parks and open space, and human and social resource facilities. This component also describes current capacities for water and wastewater facilities, and potential flood control, utilities, and telecommunications improvements.

The overall goals of the Element include:

- **Community-Wide Circulation (Vehicular and Non-Vehicular):** To promote and maintain, through the annual dedication of resources and establishment of priorities, an efficient community-wide circulation system with a primary focus on [consistency with the Growth



Management Element, improving local circulation on a District by District basis, expanding mobility options for residents, advocating for a BART extension, and public education regarding transportation options].

- **Health and Human Service Facilities:** To advocate the provision, development and operation of high quality social and health service facilities to all members of the community.
- **Infrastructure and Utilities:** To ensure the provision, maintenance and operation of public infrastructure systems, and to advocate the continued upgrading of utility systems.
- **Recreation and Park Facilities:** To provide an expanded, high quality and diversified park system which allows varied recreational opportunities to all of the City's present and future residents.
- **Arts and Cultural Facilities:** To strengthen the identity and quality of the City's diverse neighborhoods and Districts.
- **Public Facilities for Individual Districts:** To provide the City's individual Districts with specialized public facilities which enhance and define each District's identity, and support the Districts' specific needs as a component of each District Plan.

#### PUBLIC SAFETY AND RELATED SERVICES ELEMENT

The Public Safety and Related Services Element, which combines the Seismic Safety Element, the Public Safety Element, and the Noise Element contained in the current *General Plan*, contains policies intended to protect human health and the community from natural and human-induced disasters. Services related to public safety, such as police, fire, ambulance and medical services, as well as disaster preparedness, are a focus of this Element. Another objective of this Element is to protect public health and welfare by eliminating existing noise problems where feasible, by maintaining an acceptable indoor and outdoor acoustic environment, and by preventing significant degradation of the acoustic environment.

Like the current *General Plan* Public Safety Element, the new Public Safety and Related Services Element recognizes the importance of disaster preparedness, and encourages the use of community education to minimize the loss of life, injuries, property damage and economic and social dislocation resulting from future catastrophic events such as earthquakes, floods, fire, or the upset of hazardous materials. The new element addresses public safety concerns and seeks to enhance the quality of life for residents, businesses, and visitors to the City.

The overall goals of the Element include:

- **Catastrophic Hazards:** To minimize the loss of life, injuries, property damage and economic and social dislocation resulting from future catastrophic events such as earthquakes, floods, fire, or the upset of hazardous materials through community education and preparation.
- **Police Protection:** Develop a comprehensive small town police services approach composed of public education, outreach and partnership with the public to promote safety and greater police presence throughout the community, and to enhance the quality of life for all residents, businesses, and visitors to the city of San Pablo.
- **Fire, Medical and Hazardous Materials Protection:** Proactively advocate public safety services that respond to the needs of San Pablo residents, employees and visitors.
- **Noise:** Protect public health and welfare by eliminating existing noise problems where feasible, maintaining an acceptable indoor and outdoor acoustic environment, and by preventing significant degradation of the acoustic environment.

#### ENVIRONMENTAL RESOURCES MANAGEMENT ELEMENT

The Environmental Resources Management Element establishes the overall goals, policies, and implementing actions that relate to the preservation and enhancement of open space and the conservation of natural resources. The element combines the Open Space Element and the Conservation Element contained in the current *General Plan*.

Issues addressed in this element include the preservation and enhancement of resources, such as biotic resources, water quality, energy, historic resources, air quality, hillsides and ridgelines, and viewsheds and corridor resources; and the recognition and enhancement of urban and rural open space systems, including urban open spaces, urban and rural linkages, and natural and social resources.

The overall goals of the Element include:

- **Preserve and enhance the City's existing physical environmental resources** to include all creeks, hillsides, air quality, groundwater, vegetation and wildlife, energy and historical sites.
- **Create a balanced and identifiable open space system** which combines the City's natural, social, aesthetic and cultural resources as a link between urban and rural community features.

## C. PROJECT CHARACTERISTICS

### LAND USE, ECONOMIC DEVELOPMENT, AND COMMUNITY DESIGN ELEMENT

The updated General Plan would rename the designations or modify the definitions of the commercial, open space, and public land use designations set forth in the existing *General Plan*, and would add a Mixed Use category. Table III.1 lists the existing and proposed land use designations.

Proposed land use designations are illustrated in the Land Use Map, which is presented in Figure III.2. The main feature of the draft Land Use, Economic Development, and Community Design Element that distinguishes it from the current *General Plan* Land Use Element is the creation of a new, district-related land use designation, Mixed Use, that is designed to enhance economic and redevelopment opportunities in the City by allowing retail, community-oriented uses, commercial, and residential uses. The Land Use Map illustrates eight different Mixed Use Districts throughout the City (see Figure III.2). These districts are described below. The Plan contains only one designation for commercial uses, and does not include the Commercial/Medium Density Residential and Commercial/High Rise designations that are included in the currently adopted Land Use Plan. (The Land Use, Economic Development, and Community Design Element does provide several subcategories within the commercial designation for purposes of zoning.)

The Land Use component of the Land Use, Economic Development, and Community Design Element includes a policy for the City to conduct a potential annexation area evaluation study to consider annexing the Rollingwood and Hillside neighborhoods. Although the Element does not propose to annex those areas at this time, this EIR would likely cover the potential impacts of annexation (both areas are served by the same public service providers as the City, and no changes in land use are expected).

Actions proposed as part of the Physical Design component include identifying important regional gateways to the City with special signage or landscaping, and implementing a comprehensive design strategy for streetscaping along primary streets and within Mixed Use

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TABLE III.1: LAND USE DESIGNATIONS IN EXISTING AND UPDATED GENERAL PLANS

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Existing General PlanUpdated General Plan**Residential**

Low-Density Residential (7-12 DU/acre)/a/  
 Medium-Density Residential (12-24 DU/acre)

Low-Density Single-Family Residential (1-12 DU/acre)  
 Medium-Density Multi-Family Residential  
 (13-24 DU/acre)

High-Density Residential (24-42 DU/acre)

High-Density Multi-Family Residential (25-48 DU/acre)

**Commercial**

Commercial  
 Commercial/High-Rise  
 Commercial/Medium Density Residential

Commercial (0.4-0.75 FAR)/b/

**Mixed Use**

None

Mixed Use (0.40-0.75 FAR)

**Industrial**

Industrial

Industrial (0.6 FAR)

**Public/Open Space**

Parks and Open Space  
 Public/Semi-Public

Public/Semi-Public, Institutional  
 Open Space, Multi-Use Corridor

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/a/DU=Dwelling Units; FAR=Floor Area Ratio









/b/Includes Neighborhood, Light, Regional, and Heavy Commercial, and Office.

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# LAND USE MAP KEY

	<b>Low Density Residential</b> (12 Units Per Acre or Less)		<b>Commercial</b>		<b>Mixed Use Special Districts</b>
	<b>Medium Density Residential</b> (13 to 24 Units Per Acre)		<b>Industrial</b>		District 1: Entertainment/Regional Serving Commercial District
	<b>High Density Residential</b> (25 to 48 Units Per Acre)		<b>Public/Semi Public, Institutional</b>		District 2: El Portal Center/ Public Transit District
	<b>Open Space, Multi-Use Corridor</b> NOTE: The Multi-Use Corridor is designated as Wildcat Creek, San Pablo Creek and Rheem Creek.				District 3: 23rd Street District
					District 4: Market Avenue District
					District 5: Rumrill Boulevard District
					District 6: Alvarado District
					District 7: Giant Trade Center Business Park
					District 8: San Pablo Dam Road District

SOURCE: City of San Pablo

San Pablo General Plan Consulting Services / 950160 ■

**Figure III.2**  
Proposed Land Use Map

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

Districts. Other policies encourage lighting improvements, tree planting, and undergrounding of utility lines throughout the City. The Physical Design component also recognizes the importance of the City's historic resources and existing open space.

Land use categories would generally be similar to the current *General Plan*, with the exception of the Mixed Use category. The distributions and mix of uses, however, would be substantially different in some areas. As illustrated on the Land Use Map, the mix and distribution of proposed land uses are a direct result of community input, the Background Report on existing conditions prepared in October 1995 and the Economic Validation Report (see Figure III.2).

State law requires the General Plan to establish standards of population density and building intensity for each land use classification. Residential density is expressed in housing units per gross acre. For non-residential uses, a maximum permitted ratio of gross floor area to gross site area (floor area ratio, or FAR) is specified. FAR is a flexible measure of development intensity. For example, a three-story building covering 10 percent of a lot has the same FAR as a one-story building covering 30 percent of a lot. FAR is used in combination with other zoning regulations, including setbacks, open space, parking and building requirements, to determine the final extent of development permitted.

#### Description of Land Use and Zoning Categories and Related Uses

The proposed land use categories include the following:

**Low Density, Single Family Residential:** This designation allows the development of single family dwellings in the form of detached, zero lot line and cluster housing. The purpose of this land use designation is the facilitation of the type and character of single family residential neighborhoods which are prevalent in San Pablo, and which shall be maintained in the future. The maximum allowable density 12 dwelling units per gross acre. In some parts of San Pablo, the potential density may be lower due to particular lot sizes or circumstances. In approving Low Density, Single-Family Residential development, typical issues to be considered include: housing character and design; housing size; parking requirements; and consistency with the neighborhood context.

**Medium Density, Multi-Family Residential:** This land use designation allows more intense development than the previous category. Building types allowed within this designation may include duplexes, triplexes, quadplexes, townhouses, and condominium or apartment buildings. Allowable densities range between 13 and 24 dwelling units per gross acre.



**High Density, Multi-Family Residential:** Similar to the Medium Density, Multi-Family Residential Designation, this land use designation establishes the framework for intense residential development such as multi-story apartment and condominium buildings. Development under this designation is mostly intended to occur near community shopping facilities, employment centers, transportation facilities or other public amenities. The allowable density range is 25 to 48 dwelling units per gross acre.

**Commercial:** The Commercial land use designation exists in two forms: commercial-only land uses and combined commercial-mixed use land uses. The commercial-only designation is described within this section, while the later is described within the Mixed Use section below. Each of these two land use designations is further categorized into four different commercial zoning categories. They include Neighborhood Commercial, Light Commercial, Heavy Commercial and Regional Commercial, and are discussed after the land use designations.

Based upon the findings of the economic validation study, the General Plan Diagram reflects the need for retail uses to be concentrated in strategic locations within the City in order to provide the critical mass necessary to attract retail expenditures from outside the City. By encouraging the reduction of scattered "strip" commercial areas, and concentrating commercial redevelopment (such as El Portal Center) and increasing the purchasing population (with high density/ mixed use strategies), the city's retail base may be strengthened.

**Industrial:** The Industrial land use designation is intended to permit a variety of industrial activities, with a focus on encouraging employment opportunities and clean industry. Research and development opportunities are encouraged, as well as incubator industries, miscellaneous repair services, wholesale assemblers, distribution centers and small manufacturing facilities. Secondary uses are to be directed towards warehousing and distribution facilities.

**Public/Semi-Public, Institutional:** The Public/Semi-Public, Institutional land use designation provides locations for uses that support civic, cultural, health, educational, and infrastructure services to the community. Uses may include parks, government administrative offices, schools, hospitals, fire stations, post offices, State and federal facilities, convalescent homes and related uses. Private schools are not permitted in these areas, but are allowed in residential and commercial areas. Civic uses include the City Hall complex and city offices, corporation yard, and related City facilities.

**Open Space, Multi-Use Corridor:** The intent of this land use designation is the preservation of visual and physical natural resources within the community. Three types of open space are permitted including: non-recreational open space, active recreational open space, and passive recreational open space. The first use, non-recreational open space, includes cemeteries, utility easements, flood control facilities and related open areas for infrastructure facilities. Active recreational open space refers to built facilities including basketball courts, ball fields, play equipment, and organized activities. Passive recreational open space allows for a mix of low impact activities such as walking trails, bike paths, natural parks, and plazas.

**Mixed Use Designation:** The Mixed Use designation incorporates areas which support a combination of complimentary uses. The overall intent is the establishment of a defined mix and scale of development within a number of Districts. Each District will be the focus of a specific set of development criteria, to be more formally defined subsequent to adoption of the General Plan. Particular Mixed Use Districts shall be planned either through a Specific Plan or related detailed planning process.

In response to the economic validation analysis and public comment through the outreach process, the Mixed Use designation intends to promote higher managed areas of a complementary mix of uses at varying degrees of density and intensity. Within some Mixed Use areas, uses may be structured and located to serve regional commercial, heavy commercial or industrial needs. In contrast, other Mixed Use areas may contain a neighborhood scale of commercial which serves the immediate population, contains a higher percentage of residential, and promotes a wider range of pedestrian-oriented retail. Actual land use mix may vary greatly depending upon location and the characteristics of the District.

Typical characteristics for a Mixed Use District are the inclusion of an use generator (such as entertainment facilities, employment uses, transit stations, and public institutions), which is supported by a mix of medium to high density residential, and support commercial. Within the Mixed Use designation, any proposed commercial land uses are assumed to have a maximum FAR of 0.40. The Mixed Use designation, however, offers an additional incentive for new development to provide public amenities and facility improvements which serve to distinguish the development area as unique. Such amenities may be realized in the form of urban open space, multiple (mixed) uses, or other unique design features. As an incentive, FARs may be increased to 0.75 with the provision of these features. This flexibility allows the Mixed Use areas to serve much like an overlay zone, where underlying land uses are recognized and allowed, but where higher quality and characteristic mixed use development is encouraged.

Where heavy commercial uses are to be part of a Mixed Use District, land uses which are complementary and supportive of this use shall be encouraged. Where appropriate, specific design criteria and buffering will be recommended to avoid land use incompatibility. Accordingly, the same type of planning activity for Mixed Use Industrial shall apply in terms of opportunities for urban open space, and pedestrian linkages.

District 1: Entertainment/Regional Serving District. The creation of an Entertainment/Regional Serving District would promote a variety of local and regional entertainment and recreation activities for all age groups. Design standards would be put in place to incorporate a festive, coordinated color palette for new development; pedestrian scaled architectural features such as arcades, canopies and paseos; stucco and tile finishes on buildings; architectural lighting on landmarks and entries, streetscape themes and outdoor gathering spaces/plazas. Land uses would include entertainment oriented shopping, dining, and recreational activities and facilities coordinated around a central theme, hotels/motels and other land uses which promote higher density residential uses in conjunction with regional attractions.

The establishment of the District has Brookside Hospital, Diaz Plaza, and Town Center as the northwesterly, southerly, and easternmost anchors of the district, respectively.



The Casino is located at the nucleus of the district, the intersection of San Pablo Avenue and San Pablo Dam Road. Included within the mix is the regional access to I-80. In response to the history, vision and existing setting, planning policies for the District seek to achieve a balanced mix of social, medical, residential, recreational and regional commercial uses for local and the targeted regional market area. The added challenge is to develop an identifiable theme and atmosphere that is conducive to the conflict between auto-oriented development and the desired pedestrian oriented activities.

Planning activities to further the implementation of this District are envisioned to be carried out through a Specific Plan process, through the zoning ordinance and design guidelines or through specific planning of the district subsequent to the General Plan update, as identified within the District policies and actions.

District 2: El Portal/Public Transit District. The El Portal/Public Transit District should become a new, planned pedestrian-friendly downtown area focusing on a range of local serving commercial uses and appropriately scaled regional serving uses, while adding residential development to underutilized property. Representing a revitalization of the historic downtown area, El Portal would include a central plaza for outdoor festivals, activities and markets. Design and zoning guidelines should be established to encourage pedestrian use, community serving shopping, residential development, and linkages with existing civic amenities. Specific attention would be towards improving the area as a community transit center that takes advantage of the AC Transit Center at Contra Costa College and the potential for BART.

Planning activities to further the implementation of this District are envisioned to be carried out through a Design Guidelines/Planned Community process subsequent to the General Plan update, as identified within the District policies and actions.

District 3: 23rd Street. The 23rd Street District should have land use designations which recognize the street's important role as a focal point for neighborhood life, and which focus upon the street's improvement as a special shopping district. Commercial uses should be consolidated north of Bush Street where a revitalization effort will focus on creating a managed, pedestrian-friendly shopping environment with the sidewalk-facing building fronts, transparent storefronts with awnings, pedestrian-scaled streetscape elements, and landscaped parking lots.

Twenty-third Street runs north/south from San Pablo Avenue to the Richmond City limits. The District is defined by the area north of Bush Avenue to San Pablo Avenue. Brookside Center and the Post Office serve as the northerly anchor while 23rd Street's intersection with Market Street creates the southerly anchor for focused improvements.

As a means of ensuring appropriate investment is made to this fragile District, a focused planning approach should be instituted that includes a comprehensive parking program, public transit amenities, and the creation of public areas along 23rd Street, as well as programs to help establish and nurture small businesses.

District 4: Market Avenue. The Market Avenue District should continue to allow for a balanced mix of residential, public facilities and appropriately scaled neighborhood-serving small retail or office uses, while retaining its pedestrian-scaled character.

Market is the primary arterial that connects 23rd Street and Rumrill Boulevard. It is an important route from the east side of the city to the west and North Richmond.

Specific improvements to the area include the enhancement and integration of the school and library/civic uses and the phased turnover of auto related businesses. Planning activities should also encourage the enhancement of Market Street as a public transit route.

District 5: Rumrill Boulevard. As a mixed use area, the Rumrill District is intended to serve Old Town residents with larger multi cultural retail and service activities. Heavier commercial and light-industrial uses would be focused on the west side of Rumrill. Planning for this area should provide for a wide range of site and architectural design solutions reflecting the diversity of the community it serves. Focus should be placed on pedestrian accessibility and the creation of a better street identity.

District 6: Alvarado District. As a master planned residential and Civic Center mixed use community, the Alvarado District should incorporate a system of integrated open spaces, plazas, paseos, courtyards and parks. Design features should reflect the district's historic importance as San Pablo's original town center. Uses within the district would complement the Civic Center, the senior housing developments and promote the community's multi-cultural heritage. San Pablo Avenue should be strengthened as the City's primary civic street; be redeveloped as multifamily housing between Church Lane and San Pablo Dam Road; and complimented by streetscaping on San Pablo Avenue.

Along the southerly boundary of the District is the Brookside Hospital area. Development around Brookside Hospital has been care service oriented in development of offices, senior care facilities, proximity to senior housing and supporting commercial businesses.

The Alvarado District includes the properties along San Pablo Avenue and Church Lane between Vale Road and 23rd Street. The District is bordered by San Pablo Creek to the north and Wildcat Creek to the south and west.

There are a few properties that are susceptible for development that, if designed with a comprehensive District design plan as a foundation, could enhance the civic role this district has and will continue to play. Using the Civic Center as the architectural and civic nucleus for the District, planning for the area should be more specific in nature in order to ensure consistency with re-use infill. The Land Use and Physical Design policies will work to enhance the Hospital's role within the community including improved transit facilities for care patients and employees and in the creation of a walkable and accessible district with the focus on outdoor improvements such as plazas, gardens and other amenities.

Planning activities to further the implementation of this District are envisioned to be carried through a Specific Plan process subsequent to the General Plan update.

District 7: Giant Trade Center Business Park. A planned commercial development approach would be an important policy to maximize the potential of the Giant Road access to the Richmond Parkway. Land Use and Physical Design policies will consider a number of opportunities to improving the Giant Trade Center. One proposal under study is the creation of a direct access roadway from Broadway to Giant Road to relieve impacts of commute traffic from residential streets.

District 8: Hillside Area and San Pablo Dam Road. The Hillside Area and San Pablo Dam Road District would be recognized as an important address and planned in less of a piecemeal fashion with development focused on more consistent and integrated land use patterns that optimize and improve freeway accessibility and encourage the use of the new shopping center. Pedestrian access to the hillside would be improved through the establishment of an open space network connecting the hillside to San Pablo Dam Road.

The residential area east of I-80 has been identified as an important visual resource with rural qualities that should be protected through development and landscaping improvements that integrate residential and open space uses. Development should take advantage of the proximity to Wildcat Canyon and the regional park and seek establishment of a connected pedestrian open space network that links the residential area with the commercial services found at the Princeton Plaza shopping center.

This planning area includes the incorporated areas to the east of I-80. Surrounding the area is Richmond to the north and south and the unincorporated areas of El Sobrante and the Hillside area to the West. San Pablo Dam Road generally bisects the hillside near its base.

Planning activities to further the implementation of this District are envisioned to be carried out through a Specific Plan and Hillside Design Guidelines process subsequent to the General Plan update.

The following are individual zoning categories and related uses that are defined within the City's Zoning Ordinance and are intended to implement the above-described land use categories. For example, the Neighborhood Commercial, Light Commercial and Regional Commercial zoning categories are sub-categories of the Commercial land use designation..

**Planned Community:** Planned Community is a zoning category intended to function as an overlay district for areas susceptible to combined parcels and reuse, and is intended to foster superior site design in the event that a series of parcels can be consolidated into a minimum of one acre. Although residential is the primary use, commercial, industrial and support uses such as open space, parks, and related amenities are allowed. Development within this overlay district is subject to conditional use permits in conjunction with the goals of the Land Use Element, district designation and the surrounding neighborhood.



Residential densities and commercial intensities are subject to consistency with the land uses of the adjacent areas and/or the intentions of the planning activities of that area.

**Mobile Home:** The Mobile Home category includes manufactured housing utilized as permanent residences. Mobile homes are permitted within certain Mixed Use District areas, Heavy Commercial areas and within Industrial designated areas on properties of two acres or more. Mobile homes are subject to conditional land use approvals based upon specific standards for property layout and design, inclusion of common/open space areas, and other facilities or maintenance provisions.

**Neighborhood Commercial:** The Neighborhood Commercial category typically includes businesses located within the neighborhood area they serve. Uses may include, but are not limited to, grocery and convenience stores, salons, professional offices, restaurants, drug stores, dry cleaners, banks and other businesses of everyday use. Neighborhood Commercial is encouraged to provide basic neighborhood services; however, recognizing there is an overabundance of strip retail development in the city that detracts from the city's overall competitive retail base, Neighborhood Commercial services are focused at primary intersections within closer proximity for walking to and from underserved neighborhoods. Institutional uses and auto service oriented uses are conditionally permitted in some districts and prohibited in others based upon individual District policies. The maximum allowable Floor Area Ratio (FAR) within this category is 0.4.

**Light Commercial:** The Light Commercial category includes similar businesses as described for Neighborhood Commercial, but are usually located in neighborhood or commercial "centers" with other retailers and commercial businesses, and generally serve a larger geographic region. The location for light commercial uses is intended to be along primary or arterial streets which allow for greater visibility and access. Uses permitted and encouraged include offices, business services, retail, and restaurants. Uses that may have a detrimental environmental impact to adjacent uses (such as outdoor displays, outdoor sales, auto service or auto sales) would be conditionally permitted in designated areas. These same types of impacting uses would be conditionally permitted or prohibited within individual Districts based upon District policies. The maximum allowable FAR is 0.40.

**Heavy Commercial:** The Heavy Commercial (HC) category allows for the light commercial uses described above, in addition to those uses that may require a larger-scale building on site; may have visual or other environmental impacts; or may operate as a stand-alone business which attracts higher than average volume of customers which may not be conducive to a retail district.

Types of uses permitted include wholesale trade with limited storage, warehousing that services retailers and industry; the retail trade of heavy materials and high volumes of limited merchandise; and auto oriented sales and service. Different types of outdoor sales and storage would either be conditionally permitted or prohibited, depending upon each District. The maximum allowable FAR is 0.40.

**Regional Commercial:** The uses allowed within the Regional Commercial category typically include malls and major department stores, discount factory outlet stores, lumber and home improvement stores, and other retailers which serve a very large geographic



region due to their size, limited locations and high demand for parking. As such, regional commercial centers are located adjacent to intersections of regional roadways or freeways, and may include highway-oriented businesses. San Pablo has limited sites for major freeway access, and thus has a disadvantage for a typical regional commercial center. Types of uses include those permitted in the Neighborhood Commercial, Light Commercial and Heavy Commercial designations. Office buildings, lodging and finer restaurants are encouraged. The maximum FAR is 0.50.

**Office:** Office uses are permitted in areas designated for Commercial land uses, as well as the Mixed Use land use designation. Professional and medical-related offices are encouraged by the city, although there is no major office demand projected in the near future. The maximum allowable FAR is 0.75.

**General Industrial:** This category permits a wide range of "clean" industrial development including light manufacturing, R & D and related industrial park types of uses. Heavy industrial uses, however, which may have a substantial impact on air quality, noise, visual resources and related environmental impacts are discouraged for General Industrial, through both the General Plan and the Zoning Ordinance. Support commercial uses are permitted in this area. The maximum allowable FAR is 0.60.

**Planned Industrial:** This category is intended for areas where the consolidation of several parcels (one acre typical) is possible and whereby the benefits of a specific plan or other mechanism can be used for land use and design. This category includes light industrial and industrial parks, with support commercial uses. The maximum allowable FAR is 0.60.

Table III.2 provides a comparison of the acreage of the proposed land use designations by general land use category with the acreages for existing conditions and the existing *General Plan* and zoning. Table III.3 shows the development that could occur given "buildout" at the densities allowed under the updated General Plan (i.e., dwelling units per acre and typical FAR). Buildout consistent with the updated General Plan could result in up to about 5.9 million total square feet of commercial and industrial development and up to about 20,410 total residential units. (There were 9,424 households [an approximation of residential units] in 1990. There are no comparable figures for existing commercial and industrial development. A partial inventory conducted for the economic background report found about 1.2 million gross leasable square feet of community retail, retail strip, and competitive office space in the City. Based on the existing commercial and industrial land use acreages, it is estimated that there are roughly 3.8 million square feet in commercial and industrial use.<sup>1</sup>)

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<sup>1</sup> An order of magnitude estimate, based on the gross acreages shown in Table III.2. It is assumed that less than one-third of the acreage is developed in single-story buildings (an FAR of 0.30).

TABLE III.2: EXISTING AND PROPOSED LAND USE ACREAGES, BY GENERAL LAND USE CATEGORY

	<u>Existing Land Use/a/</u>	<u>Existing Zoning/a/</u>	<u>1980 General Plan/b/</u>	<u>Updated General Plan/a.c/</u>
Single-Family Residential	783	940	692	830
Multi-Family Residential	265	155	176	164
Planned Community	0	185	0	0
Commercial	268	326	187	22
Industrial	26	38	22	28
Public/Semi-Public/d/	231	14	197	166
Mixed Use/e/	0	0	0	448
Vacant	86	0	68	0
Streets/a,b/	0	0	316	0
<b>Total/f/</b>	<b>1,658</b>	<b>1,658</b>	<b>1,658</b>	<b>1,658</b>

/a/ Numbers are expressed in gross acres (including streets).

/b/ Numbers for categories other than "Streets" are expressed in net acres (i.e., not including the 316 acres of streets).

/c/ Acreages for designations other than Mixed Use include only those lands outside of Mixed Use districts.

/d/ Allowed in any district under existing zoning, but not generally a separate district.

/e/ Eight districts in the updated General Plan. Acreages include 28 acres single-family residential, 143 acres multi-family residential, 220 acres commercial, 7 acres industrial, and 50 acres public/semi-public and open space uses.

/f/ Totals may not all equal 1,658 due to rounding.

SOURCE: City of San Pablo

TABLE III.3: UPDATED GENERAL PLAN: MAXIMUM DEVELOPMENT POTENTIAL AT MAXIMUM FAR

Updated General Plan Designation	Acres	Intensity/Density		Maximum Sq. Ft.	Dwelling Units
		FAR	U/AC		
Single-Family Residential	830		1-12		9,960
Multi-Family Residential					
Medium Density	106		13-24		2,544
High Density	58		25-48		2,784
Mobile Home Parks/a,b/	--				
Commercial					
Neighborhood Commercial/b/	10	0.4		174,240	
Light Commercial/b/	--	0.4			
Regional Commercial/b/	12	0.5		261,360	
Heavy Commercial/b/	--	0.4			
Office/b/	--	0.75			
Industrial	28	0.6		731,808	
Public/Semi-Public					
Community Open space/b/	52				
Urban Open Space/b/	--				
Public Facility	114				
Mixed Use					
District 1: Entertainment/Regional Commercial District	75			1,437,480	245
District 2: El Portal/Public Transit District	110			1,097,712	1,188
District 3: 23rd Street District	22			309,276	192
District 4: Market Avenue District	17			67,518	432
District 5: Rumrill District	29			496,584	96
District 6: Alvarado District	104			638,154	2,100
District 7: Giant Trade Center District	28			435,600	144
District 8: San Pablo Dam Road District	63			226,512	720
Total	1,658			5,876,244	20,405

/a/ Included within the medium- and high-density acreage counts.

/b/ Definitions within the General Plan that are provided for in various Mixed Use Districts and/or designations.

Note: Maximum development figures are based on FAR or DU/acre applied to gross acreages. Estimates represent totals for all parcels, including those that are already developed. Figures for parcels that are fully or partially developed may or may not reflect the actual densities of existing built space.

SOURCE: City of San Pablo and Environmental Science Associates

It should be noted that the density/intensity standards proposed for the General Plan update do not imply that development or redevelopment projects would be approved at the maximum density or intensity specified for each use. As indicated above, density standards would be used in combination with other factors to determine the final extent of development permitted. In addition, economic studies prepared for the City as part of the General Plan update indicate that "reasonably foreseeable" development in 2010 (the General Plan horizon year) would be substantially less than the maximum permitted. Therefore, the "maximum development" estimates presented in Table III.2 are considered unrealistic as the basis for analyzing environmental impacts. The estimates in Table III.2 also do not take into account the actual densities of existing uses in the City.

Based on the conclusions of the economic studies, and taking existing uses into account City staff estimated households, population, and employment in 2010 under the updated General Plan. According to these estimates, the total number of households would increase to about 9,830 in 2010, and the total industrial and commercial space would increase to about 4.2 million square feet.<sup>2</sup> Again, these estimates are substantially lower than the maximum 20,410 residential units and 5.9 million square feet of space that could be built.

Buildout under the updated General Plan could occur, but it is not likely to occur for many years beyond the General Plan horizon year. For the purposes of the EIR, analysis of an amount of development that is speculative and not reasonably foreseeable may result in impacts that are overstated or incorrect. In addition, other studies and plans that provide a context for the environmental analysis (such as ABAG's *Projections '94*, and the West County traffic model) are based on a 2010 analysis year. For these reasons as well as the reasons stated above, this EIR analyzes reasonably foreseeable development in 2010 under the updated General Plan. The development assumptions used to estimate additional housing, population, and employment would be incorporated into the City's environmental review of future projects. Those future development projects would be compared with the underlying assumptions; if the projects are not encompassed by the underlying assumptions, additional cumulative environmental review might be required.

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<sup>2</sup> Commercial and industrial space was estimated by applying an FAR of 0.35 to the designated commercial and industrial acreages.



#### CIRCULATION, PUBLIC FACILITIES AND SERVICES ELEMENT

The Circulation, Public Facilities and Services Element is intended to enhance the efficiency of the existing circulation system, to encourage corresponding "hard" infrastructure improvements, and to implement actions related to ensuring that improvements occur with future development and redevelopment activity.

The new element is intended to be consistent with the development assumptions in the draft Land Use, Economic Development, and Community Design Element and the Growth Management Element (adopted 1992), as required by State law. For example, the Circulation component incorporates traffic level of service standards, policies and performance standards already adopted by the City as part of the Growth Management Element. In addition, the Circulation component includes Routes of Regional Significance and Basic Routes, which are identified in the current Growth Management Element. Routes of Regional Significance include the following major roadways: I-80, El Portal Drive, Rumrill Boulevard, San Pablo Avenue, San Pablo Dam Road, and 23rd Street.

Actions proposed as part of the Circulation component include upgrading streets and intersections with unacceptable levels of safety and service, and implementing circulation improvements prior to deterioration in levels of service. The Circulation component also identifies development of a City-wide Roadway Urban Design Improvement and Management Plan "which combines District Themes with roadway hierarchy as the basis for public and private design policies." Another policy calls for the City to seek alternative funding sources to redesign and expand the capacity of the intersections of 23rd Street/Road 20/San Pablo Avenue and San Pablo Dam Road at I-80.

As San Pablo is highly urbanized, the street system is already established. Therefore, the updated General Plan does not include much new street construction. The extension of Broadway to Giant Road is identified conceptually as part of the future roadway network. To date, no specific proposals have been developed for extension of the roadway or a specific roadway alignment. Further site-specific environmental review would likely be required for this project.

The Circulation component includes a policy for the City to make a priority of supporting the extension of BART service to San Pablo with a station stop located adjacent to El Portal Center and Contra Costa College. Given the limited availability of funding for transit extensions, the

likelihood that BART would be extended to San Pablo within the horizon of the updated General Plan is low. Therefore, this EIR does not evaluate a BART extension to San Pablo as part of the updated General Plan.

The Public Facilities and Services component of the Circulation, Public Facilities and Services Element addresses issues concerning parks and open space as well as public utilities and social service facilities. Potential improvements to existing parks and recreational facilities, locations for new facilities, and expanded use of school play areas for recreation, are considered. This component is intended to be consistent with regional recreational plans, and encourages the expansion of bicycle paths and lanes and multi-use recreational trails. Like the current Public Facilities Element, this component also addresses the demand for educational facilities.

Actions proposed as part of the Public Facilities and Services component include expanding libraries, upgrading street lighting, and improving park facilities. The Public Facilities component also recommends development of and implementation of a Recreation and Parks Master Plan to prioritize the city's recreational needs, identify preferred sites for new facilities, and plan for acquisition and improvements, and the establishment of a schedule for acquisition, development and maintenance of existing and future facilities. Other policies advocate upgrading of water, wastewater, and storm drainage infrastructure systems, and undergrounding of utilities.

#### PUBLIC SAFETY AND RELATED SERVICES ELEMENT

The Public Safety and Related Services Element calls for the City to implement community education and disaster preparation strategies to minimize human injury and property damage resulting from catastrophic events such as earthquakes, floods, fire, or the upset of hazardous materials. Policies included in this element direct the City to prepare a hazardous safety zone map that identifies areas within the City that may be subject to natural or potential man-made disasters, and to establish a local safety information resource center that provides specific information relative to various hazards for public use. Other policies in this element call for the City to update the Multi-Hazard Functional Plan, which outlines the City's disaster preparedness strategy, and to seek funding sources to retrofit, reconstruct, or remove buildings identified as hazardous.

The Public Safety and Related Services Element recommends specifying routes for hazardous materials transport to minimize the possibility of casualties and property damage in the event of

a mishap. New facilities which use or produce hazardous materials shall locate along major transportation routes and away from schools, residences, and places of public assembly.

The Public Safety and Related Services Element also encourages public education and outreach strategy to promote safety and greater police presence throughout the community. Actions proposed as part of this element include purchasing, constructing or retrofitting police-related facilities and implementing a community-wide safety retrofit program, which would improve community lighting and safety and evaluate the safety of schools, parks, shopping centers and parking areas.

The Public Safety and Related Services Element also discusses existing and projected levels of noise and the extent of noise problems within the community, and measures to reduce noise. Like the currently adopted Noise Element, this element describes the properties of noise and how it is measured, and identifies land uses that are compatible with surrounding environmental noise levels. In addition, the element provides a program for guiding the placement of roadway improvements and transit facilities. Policies contained in the Public Safety and Related Services Element call for the City to revise and update the Community Noise Ordinance to control noise impacts, to ensure that residents are not exposed to excessive noise levels, and to educate the public regarding noise issues. The element also supports measures to reduce noise emissions by all sources, including, but not limited to, motor vehicles and trains.

#### ENVIRONMENTAL RESOURCES MANAGEMENT ELEMENT

The Environmental Resources Management Element, which combines the Open Space Element and the Conservation Element contained in the current *General Plan*, discusses natural resource conservation practices within four types of open space, as required by State law. These include open space for the preservation of natural resources, open space for the managed production of natural resources, open space for outdoor recreation, and open space for public health and safety. Open space for outdoor recreation is discussed in the Circulation, Public Facilities and Services Element, as is water supply and conservation. Issues concerning open space for public health and safety are described in the Public Safety and Related Services Element.

As a built-out urban community, San Pablo has certain limitations in terms of preserving existing open space areas. However, through the public input process, the community recognizes several key open space features that are part of a larger open space system. This includes consideration of both physical and social characteristics of the community, and linking these key features into



a balanced system of open and urban amenities. The Environmental Resources Management Element includes a policy to develop an open space expansion and acquisition program to purchase properties along creeks, in hillsides, and around Davis Park. Another policy calls for the City to establish a Creek Linkage and Improvement Program to provide pedestrian and bicycle access to the Creek corridors. The Environmental Resources Management Element also promotes the introduction of urban open space in new commercial developments as well as in individual neighborhoods, in the form of community gardens, localized landscape treatments, and dual use of parking facilities for gathering places.

#### **D. DISCRETIONARY APPROVALS REQUIRED BY THE CITY**

In order to adopt the new Land Use, Economic Development, and Community Design Element, the Circulation, Public Facilities and Services Element, the Public Safety and Related Services Element, and the Environmental Resources Management Element, the City of San Pablo's Planning Commission and City Council must hold public hearings and certify the EIR. Consistent with State law, amendments to mandatory general plan elements may occur four times within a calendar year. The approved new elements would be considered an amendment because the elements are being replaced and incorporated within the *General Plan*.

After the adoption of the new elements the City must take further steps to analyze and compare the elements with other City policies and municipal codes. Specifically, the city needs to compare and modify any differences with other General Plan elements and its Zoning Ordinance (State of California, 1990).

#### **REFERENCES - Project Description**

Contra Costa County, *Contra Costa County General Plan*, January 1991.

General Plan Update Team, City of San Pablo, memorandum, November 20, 1995.

State of California, *General Plan Guidelines*, November 1990.



## IV. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

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This section includes an assessment of the environmental impacts of reasonably foreseeable development under the updated General Plan. In accordance with Section 15125(c) of the CEQA Guidelines, this EIR addresses the existing physical conditions in the San Pablo area as the "baseline" for the evaluation of impacts. That is, the impacts of the updated General Plan are determined by comparing future conditions under the Plan with the existing environmental setting. A comparison of the impacts of the updated General Plan with the impacts of the existing *General Plan* is presented in Chapter VI, Alternatives.

Impacts are identified and determined to be significant, adverse but less-than-significant, or beneficial. According to CEQA Guidelines Section 15382, a significant impact is "... a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project. . . ." For each category of physical conditions evaluated in this EIR, criteria for significance have been developed, using the CEQA Guidelines, City of San Pablo standards, or the "significance thresholds" of federal, State, regional, or local agencies.

CEQA Guidelines Section 15126(c) states that an EIR "... shall identify mitigation measures for each significant environmental effect. . . ." Mitigation measures are not required for environmental impacts that are adverse but not significant. In this EIR, mitigation measures are identified (where feasible) for all of the impacts considered to be significant, and some of the impacts considered to be adverse but less than significant.

Each of the significant impacts (and each of the key less-than-significant impacts) is numbered; mitigation measures identified (in this EIR) for that impact are assigned the same number. As required by CEQA, mitigation measures proposed as part of the project (i.e., policies and actions in the updated General Plan) are included and identified separately. Policies and actions in the updated General Plan are identified with labels used the General Plan. The labels correspond to the General Plan Elements, as follows:

LU	Land Use, Economic Development, and Community Design
PS	Public Safety and Related Services
CF	Circulation and Public Facilities and Services
ER	Environmental Resources Management

#### IV. Environmental Setting, Impacts and Mitigation Measures

The policies and actions are cited by policy (or action) number and title. Full descriptions of the proposed policies and actions are in the draft General Plan, available for review at the City of San Pablo.

## **A. LAND USE, PLANS AND POLICIES**

### **SETTING**

#### **Existing Land Uses**

##### **Regional**

Chapter III, Project Description, includes a description of the City of San Pablo's regional setting. San Pablo is part of the "West County" Area of Contra Costa County. Facilities of regional significance within the San Pablo city limits include Brookside Hospital and Contra Costa College. The City is accessed from the north and south by I-80, and from the west by I-580 across the Richmond-San Rafael bridge.

The City of San Pablo is located along I-80 and is inland from the east side of San Pablo Bay. The City is bounded predominantly by the City of Richmond; the unincorporated community of El Sobrante is located to the north and south of the eastern extension of San Pablo. Other unincorporated areas in Contra Costa County are located north, east, and west of the City. The northern tip of Wildcat Canyon Park abuts the City's southeastern border.

##### **Local**

Most of the land within San Pablo's jurisdiction is west of I-80, which runs north-south through the City. San Pablo, Wildcat, and Rheem Creeks extend through the City from east to west. There are eight general types of existing land uses within San Pablo; these land use types are described below and shown in Figure IV.A.1.

**Residential (Low-, Medium-, and High-Density).** Approximately 1,048 acres or 63 percent of the City's land is residential, including single- and multi-family homes as well as mobile home parks. Low-density residential uses are the single largest land use in the City and are mostly concentrated between San Pablo Avenue and the City's western border, away from commercial areas and major streets. There are also pockets of low-density residential uses along San Pablo Dam Road, San Pablo Avenue and I-80. Medium- and high-density residential uses are concentrated along San Pablo Avenue, 23rd Street, Broadway Avenue, and Rumrill Boulevard.





#### IV. Environmental Setting, Impacts and Mitigation Measures

##### A. Land Use, Plans and Policies

Sixty-eight percent of the San Pablo's total housing stock was built between 1940 and 1960, with only 22 percent built within last 25 years and 9 percent built in 1939 or prior. According to the current Housing Element, approximately nine percent of the City's housing stock needs at least minor repairs (additional units need minimal repairs, but are considered to be in sound condition). (City of San Pablo, 1993a)

**Commercial.** Existing commercial uses make up 16 percent (265 acres) of the City's area. Commercial uses range from shopping centers and offices to fast food franchises and storage facilities; these uses are concentrated along San Pablo Avenue, El Portal Drive, Rumrill Boulevard, 23rd Street, and San Pablo Dam Road. The City has three community retail centers: Portal Shopping Center, San Pablo Town Center, and Princeton Plaza. El Portal Shopping Center, the largest commercial area in the City (approximately 40 acres), has recently lost three major retailers and has a 37 percent vacancy rate. Major strip retail centers include Diaz Plaza, K-Mart/MacFrugal's, Adobe Plaza, San Pablo Village, Azevedo Plaza, and Brookside Shopping Center, all along San Pablo Avenue. There are also major retail centers at Market Square (23rd and Market) and Rumrill at Market Avenue (South Side). In addition, Casino San Pablo, a cardroom that opened in December 1995, is a major regional commercial use at the intersection of San Pablo Dam Road and San Pablo Avenue. (Williams-Kuebelbeck & Associates, 1995)

**Industrial.** San Pablo has relatively few industrial uses (only 26 acres, or 1.5 percent of the total land area), all located along Giant Road and Rumrill Boulevard near the City's western boundary. The City has only one industrial park, Giant Trade Center, with 280,000 square feet of space. (City of San Pablo, 1993)

**Public/Semi-Public.** San Pablo has 217 acres, or approximately 13 percent of its land, dedicated to public or semi-public land uses. The largest public uses are three regional facilities, Contra Costa College, St. Joseph's Cemetery and Brookside Hospital. Other public uses include schools and the civic center.

**Parks and Open Space.** There are 14 acres (0.8 percent of total acreage) in the City dedicated as Parks and Open Space. More than half of this acreage (8 acres) is dedicated to Davis Park located south of Wildcat Creek near Folsom Avenue. Other areas of park and open space (e.g., community centers or recreational areas at public schools) are scattered throughout various parts of the City.

**Vacant.** The City is highly urbanized and contains only 86 acres (5 percent of the total acreage) of undeveloped land. Most of this area is composed of scattered parcels located predominately along San Pablo Avenue, 23rd Street, and Rumrill Boulevard (these smaller parcels are not shown on Figure IV.A.1). The few remaining vacant parcels of developable size (4 to 10 acres) are primarily located along San Pablo Dam Road at the City's eastern boundary.

##### Existing San Pablo General Plan Policies and Land Use Designations

The existing San Pablo *General Plan* presents policies to guide the City's growth through 1990. The emphasis of the existing Land Use Element (1980) is to "reduce densities in the City's multi-

## IV. Environmental Setting, Impacts and Mitigation Measures

### A. Land Use, Plans and Policies

family residential areas and to consolidate the City's marginal strip commercial areas." In addition, the Land Use Element supports redevelopment efforts and provides direction for future development. Specifically, the Land Use Element attempts to preserve the stability of the City's residential neighborhoods by separating residential and commercial uses in most areas.

Figure IV.A.2 illustrates how the existing *General Plan* land uses are arranged to meet the above goals. Commercial uses are concentrated around very specific corridors along Rumrill Boulevard, San Pablo Avenue, 23rd Street, and I-80/San Pablo Dam Road with most low-density residential occurring (as it does now) between San Pablo Avenue and the City's western boundary. In contrast, medium- and high-density residential uses are located next to or in conjunction with commercial areas for easy pedestrian access. Industrial uses are located at the City's western boundary, along Giant Road and Rumrill Boulevard, away from most low-density residential uses. Parks and open space are located along San Pablo Creek and in the hillside areas that are considered undevelopable due to slope and geologic constraints.

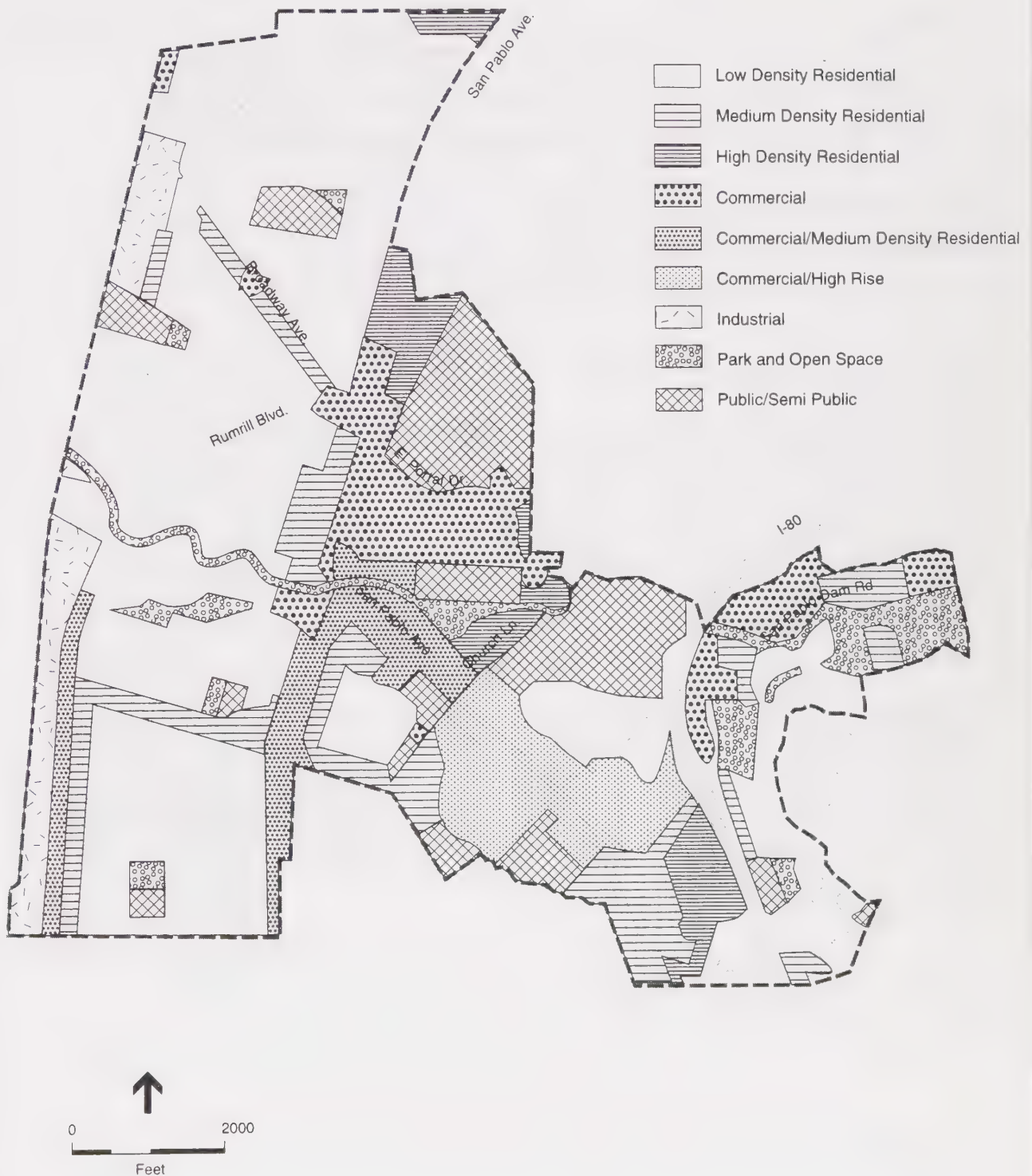
Figure IV.A.2 identifies geographically the land use designations in the current *General Plan*. Existing residential (low, medium and high densities with minor changes to allowed densities); parks and open space; and public/semi-public land use designations would remain the same under the updated General Plan and are described in Chapter III, Project Description. Other existing *General Plan* land use designations are described below.

**Commercial.** The Commercial designation is for areas intended for commercial or office uses. This designation is further delineated through use of Heavy Commercial, Light Commercial and Central Business Zoning Districts.

**Commercial/Medium Density Residential.** This designation is intended for those specific areas (e.g., portions of Rumrill Boulevard, 23rd Street, and San Pablo Avenue) where parcels are vacant or underutilized and where predominant development is marginal strip commercial use. Areas with this designation are considered priority for redevelopment.

**Commercial/High Rise.** The Commercial/High Rise designation is intended for a small area to the north of Vale Road on either side of San Pablo Avenue, where the parcel size is large enough to accommodate future commercial and/or high rise residential development (from 8 to 20 stories).

**Industrial.** The Industrial designation is intended for heavy commercial or light industrial uses (including industrial parks) along the City's western boundary with easy access to major thoroughfares for traffic circulation.



SOURCE: City of San Pablo

San Pablo General Plan Consulting Services / 950160 ■

## Figure IV.A.2

### Land Use Plan

(Existing General Plan)

City of San Pablo  
 Pacific Municipal Consultants  
 RaceStudio  
 Williams-Kuebelbeck & Associates, Inc.  
 Environmental Science Associates



## IV. Environmental Setting, Impacts and Mitigation Measures

### A. Land Use, Plans and Policies

#### Zoning

The San Pablo Zoning Ordinance serves as detailed development guidelines that implement the policies of the *General Plan*. The Zoning Ordinance was originally adopted in 1958. Since then,

the Zoning Ordinance has been amended many times (most recently in 1991), to address changes in San Pablo's land uses patterns and growth, and changes in planning-related legislation.

Figure IV.A.3 illustrates the current zoning designations for the City of San Pablo.

Zoning designations in the City of San Pablo fall into four main categories as described below.

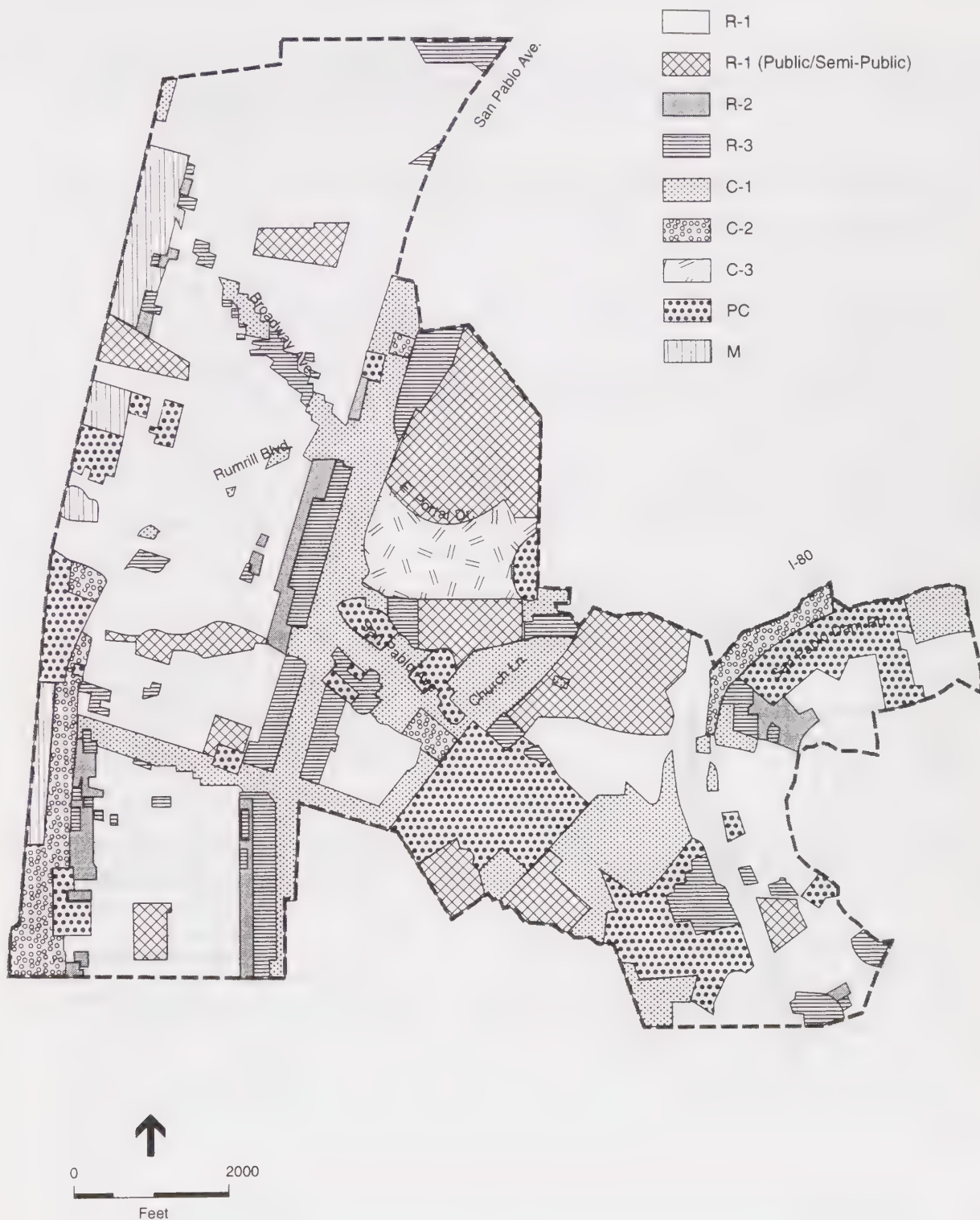
**Residential.** There are three residential zoning designations, R-1 (Single-Family), R-2 (Duplex), and R-3 (Multi-Family). R-1 primary land uses include detached single-family dwellings, accessory uses (e.g., garages, flower or vegetable gardens), and mobile homes. R-2 primary land uses include single- and two-family dwellings, accessory buildings and uses, and mobile homes. R-3 primary land uses include those allowed in R-2 districts plus multi-family units. Uses allowed with a use permit in these districts can include such uses as churches, schools, hospitals, parks, cemeteries, home occupations, parking lots, residential care facilities, hotels, or mobile home parks. The Zoning Ordinance also specifies the height limit, allowable parcel coverage, yard requirements and parking requirements for each designation.

**Commercial.** There are three commercial zoning designations, C-1 (Light Commercial), C-2 (Heavy Commercial) and C-3 (Central Business District). Primary land uses include a broad range of retail stores, service establishments and offices, wholesale establishments, parking lots, private clubs and lodges, minor use of electronic/mechanical games and accessory buildings. Secondary land uses can include service stations, taverns, garden nurseries, amusement enterprises, mixed uses, parks, public utilities, fast-food restaurants and convenience stores. The Zoning Ordinance also specifies the height limit, building site area, yard requirements and parking requirements for each designation.

**Planned Community.** There is one planned community zoning designation, PC. This designation is for parcels of land that are suitable for and of sufficient size to contain development of a special nature which will compliment surrounding uses and carry out the goals of the San Pablo *General Plan*. Permitted uses within this designation are subject to approval by the City.

**Industrial.** There is one industrial zoning designation, M. Primary land uses in this designation include retail stores, service establishments, wholesale establishments, parking lots, private clubs and lodges, outdoor sales establishments, commercial horticultural establishments, building materials and lumberyards, contractors yards, open storage yards, machine shops, animal hospitals or boarding establishments, trucking establishments, and light manufacturing.





San Pablo General Plan Consulting Services / 950160 ■

SOURCE: City of San Pablo

**Figure IV.A.3**  
Existing Zoning

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

## IV. Environmental Setting, Impacts and Mitigation Measures

### A. Land Use, Plans and Policies

Secondary land uses can include taverns, amusement enterprises, single-family dwellings, mixed uses, mobile home parks, and mobile vending trucks. The Zoning Ordinance also specifies the height limit, yard requirements and parking requirements for development in M Districts.

#### Approved and Pending Development in the Vicinity of San Pablo

##### City of Richmond

Potential development activities near San Pablo include the land uses allowed by the recent update to the Richmond *General Plan*. Development under the Richmond *General Plan* is focused on five main areas, three of which are near San Pablo and described below.

**El Sobrante Valley.** Located in the valley east of I-80, the general boundaries of this area are the City of Pinole on the north, Pinole Valley Park and the Sobrante Ridge Preserve on the east, the City of San Pablo on the west, and Castro Ranch Road and Wildcat Canyon Regional Park on the south. Within the Valley, the main area of proposed development is generally southwest of San Pablo Dam Road below San Pablo Ridge (and Wildcat Canyon Regional Park), and southeast of Castro Ranch Road below El Sobrante Ridge. It includes land within the Richmond city limits, and land outside the limits but within the City's Sphere of Influence. Under the *General Plan*, very low density and rural residential development would occur on a limited number of larger, undeveloped parcels. Density transfers would be allowed in areas above an elevation of 400 feet (in order to prevent development of those areas). Areas outside the capabilities of water and sewer service providers would be retained as agriculture, open space, or recreation.

**Hilltop/Pinole Point.** This area is west of I-80, southeast of the Point Pinole Regional Shoreline, south of the City of Pinole and the Tara Hills community of Contra Costa County, and north of the City of San Pablo. Hilltop East is east of the Hilltop Mall and west of I-80. Hilltop West is west of the Hilltop Mall and San Pablo Avenue, and borders the future Richmond Parkway, Section 5 (the Parkway will be completed in late 1996). Pinole Point Steel Company Property is north of Hilltop West and southeast of Point Pinole Regional Shoreline. The areas are within the City limits and north of the City of San Pablo. Under the *General Plan*, Hilltop East would be developed with an office park and possibly a mix of residential and commercial/office uses. Hilltop West would be developed with mixed uses, including industrial/office flex, regional office/shopping, and medium-density residential. Pinole Point properties would also be developed with mixed uses, including single- and multi-family residential, a range of industrial uses, and regional office.

**North Richmond Shoreline.** This area is generally west of the City of San Pablo and the Southern Pacific Railroad tracks, south of Point Pinole, and north of Parr Boulevard. It includes land within the City limits and the unincorporated area of North Richmond. Future development of the area is addressed in the North Richmond Shoreline Specific Plan (1993) which calls for a mix of heavy industrial, light industrial, office/industrial flex, parks, open space and public access, natural conservation, and waste disposal. The majority of the land at or immediately adjacent to the shoreline is designated natural conservation and/or parks and open space. About

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### A. Land Use, Plans and Policies

147 acres just south of the planned Richmond Parkway extension, adjacent to the northwestern boundary of San Pablo, is designated Heavy Industrial, and about 138 acres just north of the Richmond Parkway is designated Office/Industrial Flex.

Currently, the City of Richmond expects the following projects near the Richmond/San Pablo border to be proposed or approved in the foreseeable future (by 2010) (Rasmussen, 1996).

- Hilltop Plaza (200,000 square feet retail and 45,000 square feet cinema complex at Richmond Parkway and Loon Drive)
- Point Pinole Mixed Use Development Park (700,000 square feet of office, 1,200,000 square feet light industrial/warehouse, 645,000 square feet of office flex, 530 multi-family dwellings, and 60 single-family dwellings just south of Point Pinole Regional Shoreline)
- Chevron Redevelopment Area (approximately 300 acres of residential, commercial, and industrial just south of Atlas Road adjacent to the Richmond Country Club)

#### Contra Costa County

The Contra Costa County *General Plan* guides development in the unincorporated areas of the County. In the West County area, the communities of North Richmond and El Sobrante are within its jurisdiction. According to the Contra Costa County *General Plan*, a large portion of the North Richmond area is expected to be developed or redeveloped in single-family to high-density residential uses by 2010, as completion of major flood control projects and the Richmond Parkway make the area more attractive to investors. In addition, commercial, heavy industry, light industry, and agricultural uses are also encouraged. (Contra Costa County, 1991)

For the El Sobrante area, the Contra Costa County *General Plan* states that the "overall goal of the area is to retain and reinforce the semi-rural and suburban character of the community with its strong emphasis on single-family residences." Specifically, the *General Plan* encourages infill residential development near the western slope of Sobrante Ridge and the lower portions of the north face of San Pablo Ridge and discourages new areas of strip commercial development in the community. (Contra Costa County, 1991)

County Measure C-1990 established a 65/35 Land Preservation Standard that limits urban development to not more than 35 percent of the land in the County. The remaining 65 percent is to be preserved for agriculture, open space, wetlands, parks, and other non-urban uses. The urban areas of the cities within the County (including San Pablo) are factored into the 35 percent limit. In accordance with Measure C-1990, the County *General Plan* provides that the County



## IV. Environmental Setting, Impacts and Mitigation Measures

### A. Land Use, Plans and Policies

shall (as feasible) enter into agreements with the cities to preserve land for non-urban uses.  
(Contra Costa County, 1991)

The Urban Limit Line (ULL) was established in the County *General Plan* as a means to enforce the 65/35 Land Preservation Standard. The ULL establishes the limits of urban development during the term of the County *General Plan* (through 2005); properties that are located outside the ULL may not obtain *General Plan* Amendments that would redesignate them for urban land uses. Of the 480,000 acres in the County, 219,000 are within the ULL, including the City of San Pablo; lands outside the ULL near or bordering San Pablo include the North Richmond Shoreline and pockets of County land generally north of El Portal Drive and west of Hillcrest Road and Arlington Boulevard in El Sobrante Valley. (Contra Costa County, 1991)

#### LAFCO Annexation Policies

The Cortese-Knox Local Government Reorganization Act (sec. 56000 et seq of the Government Code) is the framework within which proposed city annexations are considered. This law sets forth the functions for LAFCO, by empowering it to review, approve or deny boundary changes and incorporations for cities, counties, and special districts, and to establish local "spheres of influence." LAFCO exercises both regulatory and planning functions. While annexations are a regulatory act, LAFCO's major planning task is the establishment of spheres of influence for the various governmental bodies within their jurisdictions. As mandated by Section 56076 of the Government Code, the sphere is to be "a plan for the probable ultimate physical boundaries and service area of a local government agency." In carrying out its primary responsibility for approving or denying proposed annexations, the LAFCO establishes the ground rules under which the affected city will process the annexation.

The factors that the Contra Costa County LAFCO must consider in making annexation decisions include the following (sec. 56841):

1. Population, density, land area and land use, per capita assessed valuation, topography, natural boundaries, drainage basins, proximity to populated areas, and the likelihood of significant growth during the next ten years.
2. Need for organized community services, present cost and adequacy of government services and controls, probable future needs and related justification of services, probable effect of the annexation and of alternative courses of action on the cost and adequacy of services and controls in the area and vicinity.



## IV. Environmental Setting, Impacts and Mitigation Measures

### A. Land Use, Plans and Policies

3. The effect of the proposed annexation and of alternative actions on adjacent areas, on mutual social and economic interests and on the local government structure of the county.
4. Conformity of the proposal and its effects with LAFCO policies on providing planned, orderly, efficient patterns of urban development and with state policies and priorities in conversion of open-space lands to other uses.
5. Effect of the proposal on maintaining the physical and economic integrity of lands in an agricultural preserve in open-space use.
6. Clarity of the boundaries of the territory, the non-conformance of proposed boundaries with lines of assessment or ownership, the creation of islands or corridors of unincorporated territory and other similar matters affecting the proposed boundaries.
7. Consistency with appropriate city or county general and specific plans. (Note: State Law does not mandate that annexations conform to local general plans beyond requiring that the LAFCO consider "consistency with the city or county general and specific plans" (Government Code Section 58841 {g})).
8. The sphere of influence of any agency which may be applicable to the proposal being reviewed.
9. The comments of any affected agency.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Appendix G of the CEQA *Guidelines* indicates that a project "will normally" have a significant effect on the environment if it will:

- (a) conflict with adopted environmental plans and goals of the community where it is located;
- (k) induce substantial growth or concentration of population;
- (m) displace a large number of people;
- (u) disrupt or divide the physical arrangement of an established community;
- (w) conflict with established recreational, educational, religious, or scientific uses of the area; and
- (y) convert prime agricultural land to non-agricultural use or impair the agricultural productivity of prime agricultural land.

Appendix I of the CEQA *Guidelines* (Environmental Checklist Form) indicates that, when considering whether a project may have a significant effect on the environment, factors to consider include:

#### IV. Environmental Setting, Impacts and Mitigation Measures

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- I.(a) conflicts with general plan designation or zoning;
- I.(b) conflicts with applicable environmental plans or policies adopted by agencies with jurisdiction over the project;
- I.(c) incompatibility with existing land use in the vicinity;
- I.(d) effects on agricultural resources or operations; and
- I.(e) disruption or division of the physical arrangement of an established community (including a low-income or minority community).

These factors were considered in evaluating the potential impacts of the updated General Plan. The following analysis of impacts from the updated General Plan focuses on impacts related to increased density (concentration of population) and land use incompatibilities. Other potential impacts were considered to be less-than-significant and are not discussed in this section (these impacts are discussed in the Initial Study for the proposed project, on file at the City of San Pablo).

#### Impacts

**Impact Land Use-1: Implementation of the updated General Plan would allow increased density. Development consistent with the updated General Plan would result in patterns of development that differ from existing land use patterns and could result in direct impacts related to traffic, visual quality, air quality and noise. This would be a significant Citywide and regional cumulative impact.**

The increase in density and changes in land use patterns relate to the creation of the proposed Mixed Use Districts; changes to land uses in other areas of the City; indirect increases in population and employment within the City; and development in the City considered together with development in the West County region.

#### *Mixed-Use Districts*

Development consistent with the updated General Plan would result in the creation of up to 448 acres of mixed use districts from existing residential, commercial, industrial, park and open space, public/semi public, and vacant land. Table IV.A.1 compares existing land uses with the proposed land uses for each Mixed Use District.

Development of the new eight Mixed Use Districts would cause both localized increases and decreases in land use density as described below.

IV. Environmental Setting, Impacts and Mitigation Measures  
A. Land Use, Plans and Policies

TABLE IV.A.1: EXISTING VERSUS PROPOSED MIXED USE DISTRICT LAND USES

Mixed Use District	Existing Land Uses	Mixed Use District Land Uses	Description
(1) Entertainment / Regional Serving Commercial District	Commercial Low Density Residential Medium Density Residential High Density Residential	Regional Commercial Urban Open Space High Density Residential	Casino and other entertainment-related uses
(2) El Portal/Public Transit District	Commercial Medium Density Residential Park and Open Space Public/Semi Public	Light, Regional, and Neighborhood Commercial Urban and Community Open Space Office Low Density Residential Medium Density Residential High Density Residential Public Facility	Local serving commercial uses, appropriately scaled regional serving uses, and residential infill emphasizing historic downtown and transit.
(3) 23rd Street District	Commercial Medium-Density Residential	Neighborhood Commercial Office High Density Residential Urban Open Space	Neighborhood commercial emphasizing pedestrian-friendly uses.
(4) Market Avenue District	Commercial Low Density Residential Medium Density Residential High Density Residential	Multi-Family Residential Neighborhood Commercial Office Public Facilities	Continue balanced mix of residences with neighborhood retail and office; Integrate school and library civic uses; Remove auto-related businesses.
(5) Rumrill District	Commercial High Density Residential Park and Open Space	Heavy and Neighborhood Commercial Industrial Medium Density Residential	Move heavier commercial and light-industrial uses to the west side of district; Focus development on pedestrian accessibility and multi-cultural retail and service activities to serve Old Town residents.
(6) Alvarado District	Commercial Medium Density Residential High Density Residential Park and Open Space Public/Semi Public	Light Commercial Office Public Facility High Density Residential Community Open Space	Master planned residential and Civic Center mixed use community emphasizing historic San Pablo; Incorporate system of integrated open spaces, plazas, paseos, courtyards and parks.
(7) Giant Trade Center District	Low Density Residential High Density Residential Industrial Public/Semi Public	Light and Heavy Commercial High Density Residential	Planned commercial use to emphasize access to Richmond Parkway.
(8) San Pablo Dam Road District	Commercial Medium Density Residential Park and Open Space Vacant	Light and Heavy Commercial Medium Density Residential Open Space	Focus development in a more consistent and integrated fashion; provide improved pedestrian access to hillside.



#### IV. Environmental Setting, Impacts and Mitigation Measures

##### A. Land Use, Plans and Policies

The following changes in land use could result in increased density:

- High-density residential uses would increase by up to 38 acres over existing conditions with development of Mixed Use Districts # 1, 2, 3, 4, 6, and 7;
- Industrial uses would increase by up to nine acres with development of Mixed Use District # 5; and
- Some of the vacant lands within the City would be eliminated with development of Mixed Use District # 8 (although some of the District would be open space).

The following changes in land use could result in decreased density:

- Commercial uses would decrease by up to 26 acres; and
- Community and urban open space uses would increase by up to 77 acres with the development of Mixed Use Districts # 1, 2, 3, 6, and 8.

##### *Other Areas of the City*

In addition, changes to generalized land uses outside the Mixed Use Districts could cause localized increases in density in the following areas:

- Vacant to low-density residential east and west of San Pablo Dam Road;
- Low-density residential to commercial in an area bounded by Giant Road, Palmer Avenue, and Miner Avenue at the northwest corner of San Pablo; and
- Park and open space, medium-density residential, high-density residential, commercial, and public/semi public to industrial in an area bounded roughly by Brookside Drive, Rumrill Boulevard, Costa Avenue and the western boundary of San Pablo (excluding Mixed Use District # 5).

Table IV.A.2 illustrates the City-wide changes in land uses from the localized impacts discussed in detail above. Overall, residential and industrial uses could increase by up to a total of 130 acres through a reduction in commercial, public/semi public and vacant lands. The associated increases in density could cause a number of environmental impacts, including increases in traffic, light and glare, air pollutant emissions and increased noise levels. These impacts are discussed in Sections IV.B., Transportation and Circulation, IV.E., Visual Quality, IV.K., Air Quality and IV.L., Noise, respectively. Impacts from increased density would be somewhat ameliorated by the increase in urban and community open space lands.



TABLE IV.A.2: POTENTIAL CITY-WIDE LAND USE CHANGES WITH IMPLEMENTATION OF THE UPDATED GENERAL PLAN

Existing Land Uses	Acreage Change	Source(s)
Residential	+117	From commercial, public/semi public, vacant
Commercial	-26	To industrial, open space, residential
Industrial	+13	From commercial
Public/Semi Public	-92	To open space, commercial, residential
Parks and Open Space	+77	From commercial, public/semi public, vacant
Vacant	-86	To commercial, residential, open space

### *Population and Employment*

Creation of eight Mixed-Use Districts focused predominately on commercial development in conjunction with the provision of additional single- and multi-family housing would also cause indirect increases in population and employment within the entire City of San Pablo. Based on the conclusions of the economic studies, and taking existing uses into account, implementation of the updated General Plan would result in a total of 9,830 households and 4.2 million square feet by 2010. As discussed in the Chapter III, Project Description, this is not the maximum build-out possible under the updated General Plan land use designations, but a realistic view of future development in San Pablo by 2010. This increase in population and employment would affect existing traffic patterns, provision of public services and utilities, exposure of people to seismic events, air quality, and noise. These impacts are discussed in Sections IV.B., Transportation and Circulation, IV.F., Public Services and Utilities, IV.J., Geology and Soils, IV.K., Air Quality, and IV.L., Noise, respectively.

### *Cumulative Impacts*

Other development in the West County area and the region would contribute to cumulative impacts related to increased density. The geographic scope of the area contributing to the cumulative impact would depend on the type of impact. For example, development in cities that use the I-80 corridor for commuting would contribute to cumulative traffic on I-80, San Pablo Avenue, and possibly other arterials in San Pablo. Development in cities along the Hayward

## IV. Environmental Setting, Impacts and Mitigation Measures

### A. Land Use, Plans and Policies

Fault (and that might rely on the same emergency facilities and services) would contribute to the cumulative increase in exposure to seismic-related hazards. As noted previously in this section, the City of Richmond envisions development occurring consistent with its updated General Plan. Additional development is also likely in other cities in the West County area.

In some ways, increased density could actually contribute toward a decrease in adverse physical effects. For example, higher density uses that place jobs and services close to population and are oriented toward transit could result in less auto use and less traffic, noise, and air quality impacts. The mixed use districts and Citywide policies proposed as part of the updated General Plan incorporate concepts that promote the beneficial aspects of increased density.

#### **Impact Land Use-1: Mitigation Measures proposed as part of the updated General Plan**

The following policies and actions proposed as part of the Land Use, Economic Development, and Community Design Element would guide future land use development in such a way as to minimize the magnitude of the traffic, light and glare, public services and utilities, air quality and noise impacts from increased land use intensity. See also additional mitigation measures identified in Sections IV.B., Transportation and Circulation, IV.E., Visual Quality, IV.F., Public Services and Utilities; IV.J., Geology and Soils, IV.K., Air Quality and IV.L., Noise.

**Policy LU 1.1: Balanced Growth**

**Policy LU 1.5: Services and Infrastructure**

**Policy LU 2.1: Alternative Transportation Design**

**Policy LU 2.2: BART Linkage**

**Policy LU 2.5: High-Density Housing**

**Policy LU 5.8: Commercial Market Supporting Uses**

**Policy LU 5.10: Development Nodes**

**Action LU 5.B: Specific Planning Approach**

**Policy LU 6.1: Multi-Family Amenities**

**Policy LU 6.2: Planned Community/Specific Plan**

**Policy LU 11.2: Residential Development [23rd Street District]**

IV. Environmental Setting, Impacts and Mitigation Measures  
A. Land Use, Plans and Policies

**Policy LU 12.4: Residential Development Standards [Market District]**  
**Policy LU 14.4: Commercial Business Accessibility [Alvarado District]**  
**Policy LU 14.5: Commercial and Office Development [Alvarado District]**  
**Policy LU 15.1: Residential Character [Rumrill/Bayview neighborhood]**  
**Policy LU 16.1: District Circulation [Giant Trade Center]**

**Impact Land Use-1: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Land Use-1: Additional Mitigation Measures Identified in this EIR**

None required.

**Impact Land Use-1: Significance After Mitigation**

Implementation of the mitigation measures listed would reduce the magnitude of the impact to a less-than-significant level.

**Impact Land Use-2: Development consistent with the updated General Plan would result in the potential for incompatible land uses. Land use conflicts that could occur include: (1) conflicts between proposed land uses and existing land uses; and (2) conflicts between new land uses resulting from implementation of the proposed land use designations. This would be a significant Citywide and cumulative regional impact.**

Implementation of the updated General Plan could create inconsistencies between existing uses and proposed land use designations. For example, the development of Mixed-Use District #5 could create conflicts between existing uses (such as parks and open space, commercial, and low-density residential uses) and proposed uses (developing industrial and heavy commercial uses). In most cases, these inconsistencies could be seen as a means of bringing existing, potentially incompatible pockets of development into conformance with the surrounding land uses. As existing uses are redeveloped consistent with the proposed land use designations, land uses that conform with the area's general development characteristics could replace the existing incompatible land uses. Existing incompatibilities, where single parcels are involved, could be removed through the undertaking of a single development proposal that would conform with the proposed land use designations. In other cases, where these inconsistencies are more



## IV. Environmental Setting, Impacts and Mitigation Measures

### A. Land Use, Plans and Policies

widespread, conformance may occur at a slower rate. Redevelopment of areas consistent with the updated General Plan could, therefore, result in temporary land use incompatibilities.

Implementation of the proposed policies and land use designations also would result in an increase in mixed-use development. The creation of Mixed-Use Districts, while having many beneficial results, has the potential for land use incompatibility, particularly regarding the potential effects of any one of the uses within a project conflicting with or affecting another within the same site, such as late night retail activity affecting on-site residential uses. Mixed-use developments may also have a substantially greater density than that of surrounding uses.

Land use compatibility conflicts could occur in areas where the proposed Land Use Map (see Figure III.2) calls for potentially conflicting uses to be located next to each other. Potential conflicting land uses are as follows:

- Mixed-Use District #5, where industrial activities would be adjacent to low-density residential.
- Industrial uses in an area bounded roughly by Brookside Drive, Rumrill Boulevard, Costa Avenue and the western boundary of San Pablo (excluding Mixed Use District # 5), where activities would be adjacent to low-density residential.
- Mixed-Use District #1, where commercial entertainment activities would be adjacent to low-density residential and Brookside Hospital.

As noted previously in this section, plans for the communities adjacent to and near San Pablo envision additional residential, commercial, and industrial development. Some of this new development could cause land use incompatibilities with existing and potential future uses in San Pablo, and in particular with residential uses in the western and northern parts of the City.

#### **Impact Land Use-2: Mitigation Measures proposed as part of the updated General Plan:**

The following policies and actions proposed as part of the Land Use, Economic Development, and Community Design Element would guide future land use development in such a way as to minimize the potential for land use incompatibilities.

**Policy LU 1.3: Quality of Development**

**Policy LU 1.4: Street Design**

**Action LU 1A: Ordinance Revisions**



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A. Land Use, Plans and Policies

**Action LU 1.D: City Review of Proposals**

**Policy LU 2.7: BART Related Development Standards**

**Policy LU 3.1: Assemblage of Parcels**

**Policy LU 3.3: Transition of Uses**

**Action LU 3.A: RDA Program**

**Action LU 3.C: Nonconforming Uses**

**Action LU 3.D: RDA/Private Contact**

**Policy LU 4.2: Land Use Transitioning**

**Policy LU 4.4: Neighborhood Quality**

**Policy LU 4.7: Non-Residential Neighborhood Uses**

**Policy LU 4.10: Commercial/Residential Compatible Uses**

**Policy LU 4.11: Character of Public Right of Way**

**Policy LU 4.12: Rail Corridor Development**

**Action LU 4.A: Alcohol Beverage Control (ABC) Locations**

**Policy LU 5.4: Specific Plans**

**Policy LU 5.5: District Vitality and Improvement**

**Policy LU 5.9: Pedestrian Access**

**Action LU 5.B: Specific Planning Approach**

**Policy LU 8.3: Public Safety [District #1]**

**Action LU 8.B: Public Safety Improvements [District #1]**

**Policy LU 11.5: Mixed Use Retail [23rd Street District]**

**Policy LU 12.1: Dover School and the Library [Market Street District]**

**Policy LU 13.3: Residential Development [Rumrill Boulevard District]**

**Policy LU 13.4: Residential Development Standards [Rumrill]**

**Policy LU 15.1: Residential Character**

**Policy LU 16.3: Land Use Compatibility [Giant Trade Center]**

**Action 17.B: Giant Trade Center Compatible and Non-Compatible Land Uses**

**Impact Land Use-2: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Land Use-2: Additional Mitigation Measures Identified in this EIR**

IV. Environmental Setting, Impacts and Mitigation Measures  
A. Land Use, Plans and Policies

None required.

**Impact Land Use-2: Significance After Mitigation**

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level, through the development of guidelines and standards that promote land use compatibility, the transition from non-conforming uses to uses that are consistent with overall General Plan concepts, location of certain uses away from sensitive areas, use of buffers and other mitigating features, and input to proposed development in adjacent communities.

REFERENCES - Land Use Plans and Policies

City of San Pablo, Land Use Element, Adopted October 6, 1990.

City of San Pablo, *Economic Development Strategy Plan: An Economic Vision for the Future*, October 1993.

City of San Pablo, Housing Element, Adopted February 3, 1992 and Amended September 7, 1993a.

Contra Costa County, *Contra Costa County General Plan, 1990 - 2005*, January 1991.

City of Richmond, Contra Costa County, and State Coastal Conservancy, *North Richmond Shoreline Specific Plan*, prepared by Brady and Associates, June 1993.

Rasmussen, Gerald, Principal Planner, City of Richmond, Personal Communication, March 18, 1996.

Williams-Kuebelbeck & Associates, *Economic Validation Analysis San Pablo General Plan Update*, prepared for Pacific Municipal Consultants, September 18, 1995.

## **B. TRANSPORTATION AND CIRCULATION**

### **SETTING**

This section describes the project setting for access and circulation characteristics. It includes a description of the circulation system and facilities including non-automobile travel modes, adopted standards, criteria and goals for conditions on the circulation system, and the existing or prevailing conditions on the system.

#### **Roadway Network**

The goal of the City's circulation system is to provide an efficient and safe transportation system for all segments of the community. The current *General Plan* Circulation Element suggests that the City's roadway network is essentially complete, and that any new roadways would be those providing access to and within new development or redevelopment sites (City of San Pablo, 1980). This section describes the roadway network within San Pablo and its key attributes. Table IV.B.1 lists the key freeway, arterial, and collector links. Figure IV.B.1 shows the roadway network and Routes of Regional Significance (defined later in this section).

#### **Freeways**

Regional access to San Pablo is provided by Interstate 80 (I-80), which is generally an east-west freeway that runs on a north-south alignment through eastern San Pablo with six lanes, although Caltrans is constructing new HOV lanes in each direction at this writing. I-80 provides access to San Francisco via the Bay Bridge to the southwest, and to Fairfield, Sacramento, and points beyond to the northeast (see Figure IV.B.1). Though not located within San Pablo's boundaries, Interstate 580 (I-580) provides regional access to Marin County via the Richmond-San Rafael Bridge, and to eastern Alameda and San Joaquin Counties.

I-80 is a designated "Route of Regional Significance" within the Measure "C" County Congestion Management Roadway Network (Measure "C" is discussed later in this section). The function of such roadways transcends the physical and functional boundaries of regions, *i.e.*, the roadways accommodate a significant level of regional and inter-regional traffic (CCTA, 1991).

IV. Environmental Setting, Impacts and Mitigation Measures  
B. Transportation and Circulation

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TABLE IV.B.1: CITY OF SAN PABLO ROADWAYS BY CLASSIFICATION

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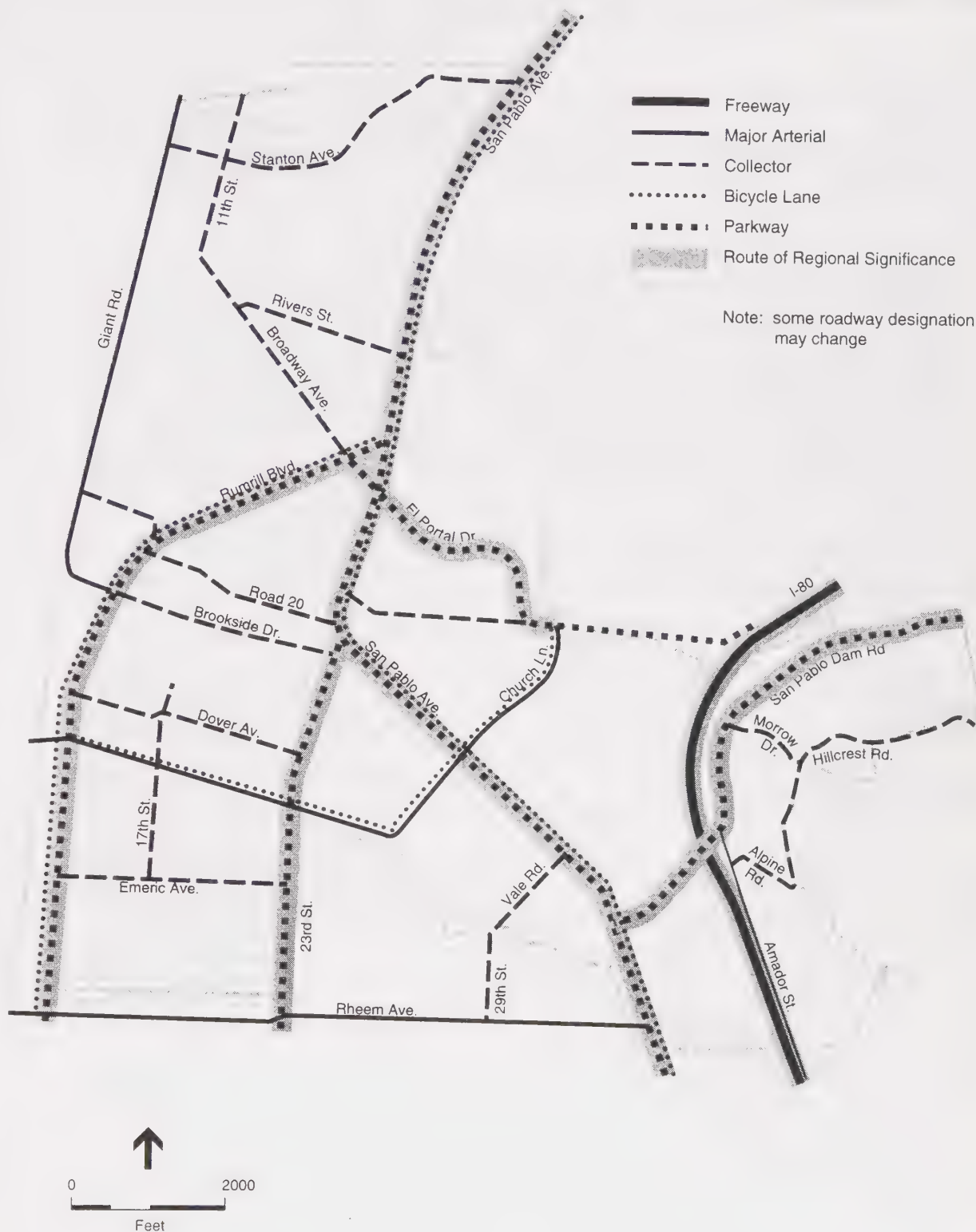
<u>Facility Classification and Segment</u>	<u>Route of Regional Significance</u>
<u>Freeways</u>	
I-80 - Citywide	X
<u>Arterial Roadways and Parkways</u>	
San Pablo Avenue - Citywide	X
San Pablo Dam Road - Citywide	X
El Portal Drive - San Pablo Ave. to San Pablo Dam Road	X
23rd Street - San Pablo Ave to Costa Avenue	X
Rumrill Boulevard - San Pablo Ave to Costa Avenue	X
Giant Road - Road 20 to Minor Avenue	
Market Avenue/Church Lane - Rumrill Blvd. to Road 20	
<u>Collector Streets</u>	
Vale Road/29th St. - San Pablo Avenue to Rheem Avenue	
Road 20 - Rumrill Boulevard to El Portal Drive	
Brookside Drive - Rumrill Boulevard to 23rd Street	
Dover Avenue - 23rd Street to Rumrill Boulevard	
17th Street/Emeric Ave. - 23rd Street to Rumrill Boulevard	
Broadway - Rumrill Bouevard to 11th Street	
11th Street - Broadway to Stanton Avenue	
Rivers Street - San Pablo Avenue to Broadway	
Stanton Avenue - Giant Road to San Pablo Avenue	
Amador Street - San Pablo Dam Road to McBryde Avenue	
Hillcrest Road - Alpine to City limit	
Alpine Road - Amador to Hillcrest	
Morrow Drive - Hillcrest to San Pablo Dam Road	

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SOURCE: City of San Pablo, existing *General Plan* Circulation Element

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SOURCE: WCCTAC; Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

## Figure IV.B.1

### Local Roadway Network and Routes of Regional Significance

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

## IV. Environmental Setting, Impacts and Mitigation Measures

### B. Transportation and Circulation

#### Local Roadways

The current *General Plan* uses three categories to classify the roadways within the City's circulation system:

1. *Major Arterials and Parkways* - typically provide connections to the freeway network, and/or facilitate rapid movement through the City. While generally four lanes wide, they range from two lanes to six lanes plus turn lanes through San Pablo. Some key arterial roadways in San Pablo are designated "Routes of Regional Significance" by Measure "C" and the City's adopted Growth Management Element because they carry significant levels of housing-to-job traffic, and intra-county trips (City of San Pablo, 1992). Table IV.B.1 identifies facilities that the City classifies as arterial roadways, and indicates whether they are classified as Routes of Regional Significance. Parkways such as San Pablo Avenue and Rumrill Boulevard have landscaped medians but less frequent availability of turn lanes at intersections, as compared to arterials.
2. *Collector Streets* - collect traffic from, and distribute to, local residential streets, and connect the residential streets to the arterial roadways. Most are two lanes wide. These and other local streets are considered "Basic Routes" in the City's adopted Growth Management Element.
3. *Local Streets* - provide access to/from residential land uses and consist mostly of small residential streets. They provide access within neighborhoods and feed into/off collector streets.

#### Existing Roadway Conditions

The City has undertaken a street improvement program intended to upgrade several key arterial roadways within the City. Ongoing or planned-and-funded roadway reconstruction projects include San Pablo Avenue, 23rd Street, San Pablo Dam Road, and Rumrill Boulevard. The improvements are being funded mostly with State and regional (Measure "C") funds. Though intended to improve traffic flow, these reconstruction projects also incorporate extensive aesthetic (streetscape) improvements to enhance the downtown business environment, including curb/gutter improvements, wider sidewalks, median islands, turn bays, street trees, and lighting. Examples include upgrades to San Pablo Avenue between 23rd Street and the northern City boundary, and between San Pablo Dam Road and the southeastern City boundary. Rumrill Boulevard also is being upgraded between Market Avenue and Brookside Drive, with the intention of diverting some non-local traffic flow off San Pablo Avenue, which the City is targeting as a revitalized downtown commercial district.

While these and other key roadways are being improved, the City does not anticipate having the resources to reconstruct and resurface roadways on what is considered an adequate, timely basis

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### B. Transportation and Circulation

due to a lack of local funding. The level of development impact fees currently levied by the City is substantially below comparable fees levied by most other Bay Area jurisdictions. The current fee structure does not provide for an adequate level of routine maintenance or for capital improvements.

While various planning and geometric standards are addressed in the City's development codes, there are no concise sets of guidelines for project development planning, or public works guidelines that guide infrastructure development. The City also lacks standardized requirements for street and streetscape improvements to developers. Much of the roadway improvement work needed involves upgrading old streets and sidewalks to modern standards. This is particularly the case for streets within the "Old Town" district bounded by San Pablo Creek to the north, the City limits to the west and south, and Church Lane to the east. Most of this area pre-dates the City's incorporation and subsequent adoption of geometric standards for streets, curbs/gutters, sidewalks, building setbacks, lot size, and off-street parking. Consequently, the level of on-street parking in this area is very high and often inhibits street cleaning and trash collection.

Sidewalks in the Old Town and other older parts of the City are substandard in terms of width and depth of poured concrete. This, combined with older planted street trees with wide lateral roots, and auto parking has resulted in substantial cracking and uplifting. At some locations, property owners have constructed illegal improvements over time within the public right-of-way, which inhibits the City's ability to construct improvements such as roadway or sidewalk widening, and handicapped ramps. Such encroachments have resulted in irregular frontages. Some property owners constructed substandard improvements such as inadequate storm water drainage in the public right-of-way, which can exacerbate flooding. Removing or correcting these encroachments and substandard improvements is very expensive.

At this writing, the Richmond Parkway is partially constructed. Upon its scheduled completion in late 1996, the project will become a bypass to I-80, providing a more direct link for trips between the Richmond Bridge and I-80 corridor north of San Pablo. It should also divert traffic off some arterial streets in Richmond and San Pablo. The remaining "gaps" in the roadway consist of a 1.6 mile segment between the Giant Road and the western end of Parr Boulevard, and a half-mile segment between Castro Street and Garrard Boulevard in Richmond. While no portion of the Parkway would lie within the San Pablo City limit, the project is expected to have a substantial effect on traffic within the City. Its primary effect will be to divert some traffic off



## IV. Environmental Setting, Impacts and Mitigation Measures

### B. Transportation and Circulation

I-80 between Pinole and south Richmond. It also should divert traffic off San Pablo Avenue, Rumrill Boulevard, and 23rd Street.

#### Bicycle Lanes

The City has no Bicycle Circulation Plan. The only demarcated bicycle facilities are the striped, Class 2 lanes along San Pablo Avenue between 23rd Street and San Pablo Dam Road.

#### Transit Service and Facilities

##### AC Transit

AC Transit provides inter-regional and local bus service to and within the City of San Pablo. Service within the City increased with implementation of AC Transit's Comprehensive Service Plan (CSP) in the early 1990's. The CSP created a network utilizing Transit Centers and Timed Transfer Points, where several routes would converge. This gave riders more accessibility to a larger number of routes and reduced average travel time by making travel less circuitous for most riders. As a result of the CSP, a Transit Center featuring timed-transfers between seven routes was established at Contra Costa College off Campus Drive. Table IV.B.2 lists these and other lines serving San Pablo, and includes their key destinations and route patterns (AC Transit, 1995a). Figure IV.B.2 shows transit routes serving the City.

The AC Transit Board of Directors approved a series of cutbacks in revenue service to address an operating budget shortfall for Fiscal Year 1995-1996. The changes reduced bus operations systemwide by up to 1,000 weekday hours, or 16 percent of the total operation. When the cutbacks were proposed, AC Transit estimated that 11 percent of all riders would be affected by the service reductions (AC Transit, 1995b). Most of the proposed cutbacks were achieved by curtailing night and weekend service. Appendix A includes a table showing how routes serving San Pablo have been adjusted from December 1995 through June 1996, reflecting service cutbacks and the Hilltop Mall route restructuring plan. That table shows that much of the bus service in San Pablo will operate with shorter hours, and that some of the weekend service will serve shorter routes or be discontinued.



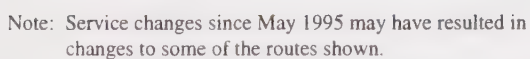
IV. Environmental Setting, Impacts and Mitigation Measures  
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TABLE IV.B.2: TRANSIT ROUTES

<u>Route #</u>	<u>Type</u>	<u>Points Served</u>
69	Local	C.C. College to El Sobrante via San Pablo Dam Road
70	Local	To El Sobrante via San Pablo Dam Road and Appian Way; to El Cerrito Del Norte BART via San Pablo Avenue
71	Local	C.C. College to Hilltop Shopping Center, El Sobrante via Hilltop Manor, Appian Way, San Pablo Dam Road; to Richmond BART via Rumrill Boulevard; El Cerrito Del Norte BART via Carlson/Potrero
72	Local / Regional	C.C. College to Hilltop Mall via Miller Road; to El Cerrito Del Norte BART, Berkeley, and Oakland via San Pablo Avenue
74	Local / Regional	C.C. College to Hilltop Mall via El Portal Drive and Moyers Rd.; to El Sobrante, Pinole, Rodeo, and Crockett via San Pablo Road; to Richmond BART/Amtrak via 23rd Street
76	Local	C.C. College to Richmond BART via Broadway, Market Street, El Portal Drive and 7th Street; Marina Bay via Regatta Blvd; El Cerrito Plaza BART via I-580 and Central Ave.
78	Local	C.C. College to Point Pinole Regional Park and W. County Justice Center via Broadway and Giant Road; to Richmond BART via San Pablo Ave., Vale, Rheem, and 18th/19th Streets
LA	Commuter / Transbay	El Sobrante via Moyers Rd, Hilltop, Appian Way (p.m.); to El Cerrito Del Norte BART via Church Lane, San Pablo Avenue; to San Francisco Via I-80 (a.m.)
LC	Commuter / Transbay	C.C. College to El Sobrante via San Pablo Dam Road (p.m.) and Valley View; to El Cerrito Del Norte BART via San Pablo Avenue; to San Francisco Via I-80 (a.m.)
30Z	BART Express Bus	To Hilltop Mall via R.H. Miller and to Martinez via I-80; to Richmond BART via 23rd Street

NOTE: Service changes since May 1995 may have resulted in changes to some of the routes listed.

SOURCE: AC Transit, May 1995



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##### B. Transportation and Circulation

AC Transit is currently in the process of developing a Strategic Plan. The purpose of the Plan is to identify the role of AC Transit in the future, and to reflect that role in the type and extent of service offered. The Strategic Plan will be developed through the efforts of a Technical Advisory Committee, comprised of city and county staff; a Policy Advisory Committee comprised of mayors, county representatives, and supervisors; Employee Advisory Committees; and Community Advisory Committees. AC Transit anticipates that the Strategic Plan will go to the Board of Directors by the end of 1996 (Eller, 1996).

AC Transit has studied the possibility of introducing Light Rail Transit (LRT) service along San Pablo Avenue. However, there is no firm timeframe for this project, and full funding is not available at this time.

#### BART

One of the bus routes shown in Table IV.B.2 (Line 30Z) is operated by BART Express. This and several AC Transit lines provide service to the BART stations in downtown Richmond, El Cerrito Del Norte, and El Cerrito Plaza. The downtown Richmond station is closest to San Pablo, located two miles to the south via 23rd Street. Trains from Richmond and El Cerrito provide direct service to Berkeley, Oakland, San Francisco, and Fremont.

BART has long-range plans to extend its Richmond Line to Crockett and possibly Vallejo. However, there is no firm timeframe for this project, and full funding is not available at this time (BART, 1995).

#### Paratransit Services

The City currently sponsors public transportation for the elderly and disabled. Federal and Contra Costa County (Measure "C") funding currently support this program. In 1997, federal funding (Transportation Development Act 4.5-related Americans with Disabilities Act funds) will be transferred to AC Transit for their use in providing public transit for disabled persons. Service for ambulatory seniors after 1997 will depend on available County funds at that time.

### Inter-City Rail

Amtrak provides inter-city train service from the downtown Richmond/BART Station to several points in the Bay Area, California, and out-of-state. "Capital" service to San Jose and Sacramento was inaugurated in 1992. "San Joaquin" service is provided to Central Valley points between Stockton and Bakersfield. East-west interstate train service is available to points between Reno/Tahoe and Chicago. Each of these routes is complemented by several bus feeder routes serving numerous communities. North-south interstate train service is available on the coastal route to points between Los Angeles and Seattle.

### Existing Traffic Operations

Intersection operations were evaluated using the concept of level of service (LOS), which relates traffic demand to intersection capacity in terms of a volume-to-capacity (v/c) ratio. Six levels of service have been established, ranging from LOS A (excellent or free flow conditions) to LOS F (jammed conditions). A more detailed description of each level of service and its relationship to the v/c ratio is presented in Table IV.B.3.

The Contra Costa Transportation Authority has adopted the Critical Lane Volume Planning Method described in *Transportation Research Circular 212* to evaluate signalized intersection levels of service (Transportation Research Board, 1980). Intersection levels of service using the critical lane concept are based on the volume of conflicting traffic (generally through movements versus opposing left turns) at the intersection during the peak hour of travel demand. The level of service calculation procedures adopted by the County Transportation Authority are identical to the *Circular 212* procedures except that intersection capacity has been increased to 1,800 vehicles per hour of "green" signal time per lane, from 1,500 vehicles per hour of green per lane, to account for local driving conditions (CCTA, 1992a).

Existing intersection levels of service at 10 major signalized intersections in the City of San Pablo are summarized in Table IV.B.4; the intersections analyzed are shown in Figure IV.B.3. These levels of service are based on intersection volumes collected from 1990 to 1992 by Caltrans, local jurisdictions and the West Contra Costa Transportation Advisory Committee (WCCTAC), and consolidated by the WCCTAC (Dowling Associates, 1992).



TABLE IV.B.3: LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service	Typical Operating Characteristics	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition where the approach to an intersection appear quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	0.00-0.60
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting upstream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.01+

/a/ Capacity is defined as Level of Service E.

SOURCE: Environmental Science Associates, Inc. from *Transportation Research Circular No. 212*, Transportation Research Board, 1980.

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TABLE IV.B.4: EXISTING (1992) AM & PM PEAK-HOUR INTERSECTION LEVELS OF SERVICE (LOS) AND VOLUME-TO-CAPACITY RATIOS (V/C) - CITY OF SAN PABLO

Intersections on Routes of Regional Significance N-S Street / E-W Street/a/	AM Peak Hour		PM Peak Hour	
	V/C	LOS	V/C	LOS
1. Rumrill Blvd. / Brookside Drive	0.48	A	0.53	A
2. San Pablo Avenue / Robert H. Miller Drive	0.32	A	0.55	A
3. San Pablo Avenue / Road 20 / 23rd Street	0.83	D	1.01	F
4. San Pablo Avenue / El Portal Drive	0.72	C /b/	0.70	B
5. San Pablo Avenue / Church Lane	0.55	A	0.59	A
6. San Pablo Avenue / San Pablo Dam Road	0.76	C	0.56	A
7. San Pablo Dam Road / I-80 WB on-off	0.94	E /b/	0.83	D /c/
8. San Pablo Dam Road / I-80 EB on-off	0.88	D /c/	1.06	F
9. San Pablo Avenue / Rumrill Blvd. / College Lane	0.59	A	0.69	B
10. El Portal Drive / Road 20	0.24	A	0.35	A
11. El Portal Drive / San Pablo Dam Road	0.56	A	0.61	B
12. El Portal Drive / I-80 WB off	0.90	D /d/	0.82	D /d/
13. El Portal Drive / I-80 EB on-off	0.58	A	0.77	C
14. 23rd Street / Rheem Avenue	0.53	A	N.A.	/e/
15. 23rd Street / Barrett Avenue	0.29	A	0.53	A

/a/ Numbers correspond to Figure IV.B.3.

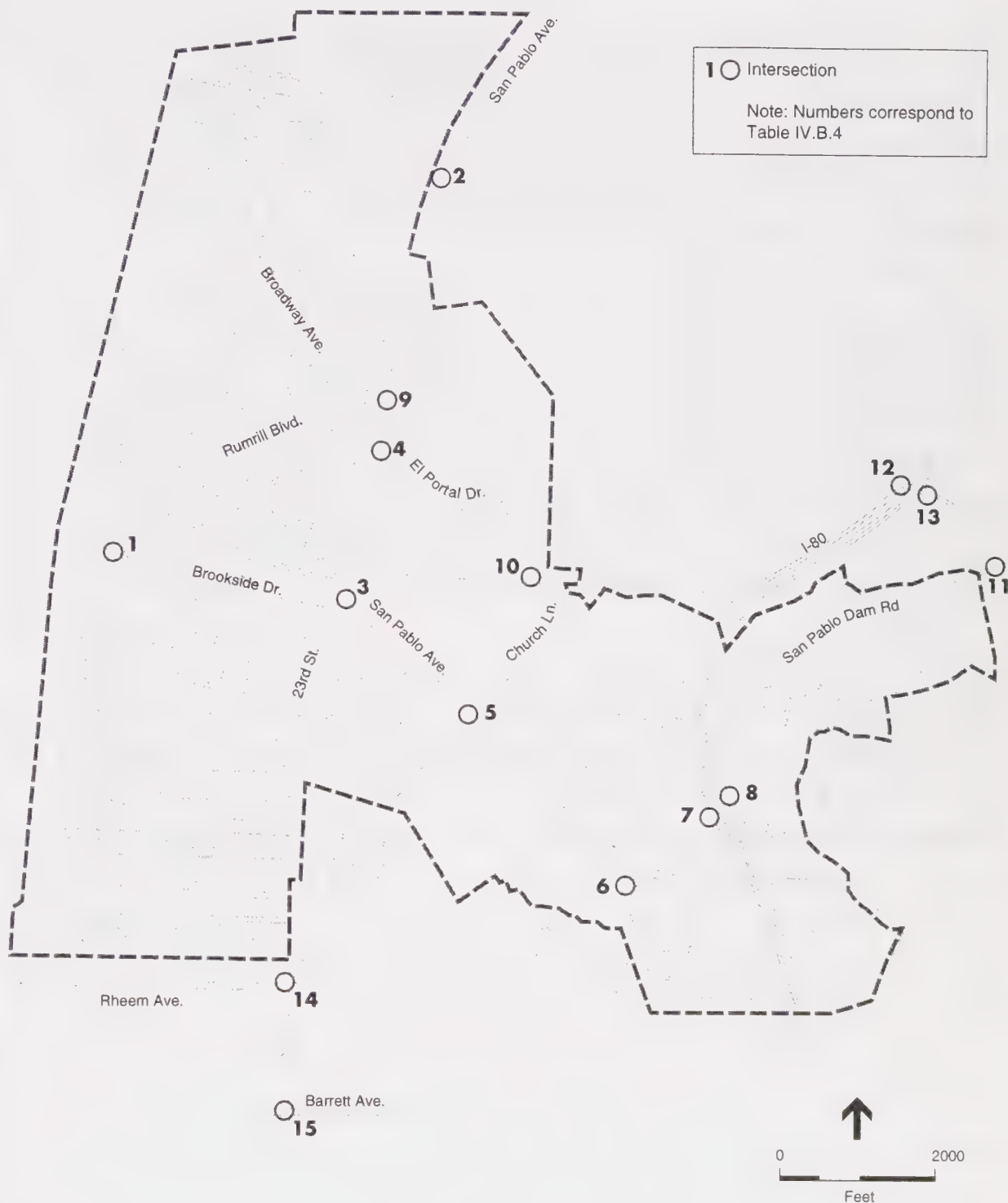
/b/ Traffic observed to back up on southbound San Pablo on "heavy" flow days.

/c/ This is actually one intersection operating at LOS F.

/d/ Traffic observed to operate at LOS F in CMP based on queues on El Portal Drive.

/e/ Traffic count data not available at time of analysis.

SOURCE: Dowling Associates, 1992



SOURCE: Environmental Science Associates

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City of San Pablo  
 Pacific Municipal Consultants  
 RaceStudio  
 Williams-Kuebelbeck & Associates, Inc.  
 Environmental Science Associates

**Figure IV.B.3**  
 Intersections Analyzed:  
 Existing Traffic Operations

## IV. Environmental Setting, Impacts and Mitigation Measures

### B. Transportation and Circulation

As shown in Table IV.B.4, traffic operations at the signalized intersections in San Pablo are relatively good, with most intersections currently operating at LOS C or better. Congested conditions (LOS E or F operations) currently occur at I-80 ramp intersections with San Pablo Dam Road during the a.m. or p.m. peak hours. In addition, the San Pablo Avenue / 23rd Street - Road 20 intersection currently operates at LOS F during the p.m. peak hour, and the nearby intersection of I-80 westbound off-ramp at El Portal Drive (just outside the City limit) operates at LOS D/E during the a.m. peak hour.

Traffic conditions on these and other nearby roadways are variable, and are influenced by traffic operating conditions on I-80. When I-80 operates well, traffic conditions on the local street system are relatively good, including other Routes of Regional Significance. However, when I-80 is congested for sustained periods, traffic congestion increases on San Pablo and other West County streets, particularly on San Pablo Avenue. Motorists tend to use local streets to avoid freeway congestion. The existing levels of service presented in this report represent conditions for the day the intersections were surveyed and though conditions vary, their use is valid for planning purposes.

#### Parking

As described in the discussion of "Existing Roadway Conditions" earlier in this section, the level of on-street parking within the "Old Town" area of the City is high. There is an overall shortage of parking in the 23rd Street commercial corridor between San Pablo Avenue and Market Avenue. The preponderance of red-curb zones limits on-street parking, and there is little substantial off-street parking. (On-street parking was eliminated when turn bays were installed). However, anecdotal observations suggest that enforcement to prevent illegal parking is not strict. The overall lack of parking could be a disincentive to luring businesses there. There are no substantial off-street parking facilities serving the older downtown commercial core areas.

The ongoing reconstruction of roadways such as San Pablo Avenue within the commercial downtown core will incorporate on-street parking lanes, in addition to travel lanes, turn bays, and median islands. The ongoing street reconstruction projects within the City's commercial districts are intended to promote a more conducive, inviting physical environment that will facilitate luring businesses back to the downtown commercial area.



### Safety

Police reports for calendar year 1994 were reviewed for accident frequency rates and locations. The review focused on the 25 intersections and 25 roadway segments where reported accidents occurred most frequently. While a substantial number of injuries were reported, none of the reported incidents at any of these locations involved pedestrians or bicyclists.

The highest frequency of traffic accidents occurred along San Pablo Avenue between Church Lane and the northern City boundaries. The San Pablo Avenue / Church intersection had the highest incidence of collision accidents (11, with six injuries) of all intersections in the City. The San Pablo Avenue / Road 20 / 23rd Street intersection had the second highest incidence of accidents. The design of that intersection features five substantially offset two-way street approaches, which undoubtedly contributes to the high accident rate there. The San Pablo Avenue / El Portal intersection had the third highest accident rate. El Portal and Broadway Boulevard approach San Pablo Avenue at steep angles there.

Other roadway segments with a high traffic accident frequency include San Pablo Dam Road east and west of I-80, 23rd Street between Road 20 and Market Avenue, and Rumrill Boulevard between Market Avenue and Pine Avenue. Market Avenue between Rumrill Boulevard and 23rd Street also has a high incidence of accidents but there are no plans for large scale physical improvements. Each of these segments is either under reconstruction or has plans for reconstruction. These reconstruction projects should have a positive effect on traffic safety and reduce collisions.

### Plans and Policies

#### Measure "C"

In November 1988, the voters of Contra Costa County approved Measure "C" (Contra Costa County Transportation Improvement and Growth Management Program). This measure established a 0.5 percent sales tax, and dedicated the tax proceeds to transportation improvements in Contra Costa County (including its cities). These revenues are subsequently returned to participating cities (*i.e.*, "return-to-source" funds) based on a formula that reflects variables such as population and street/highway mileage.

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### B. Transportation and Circulation

Measure "C" is administered by a committee comprised of elected officials from various jurisdictions throughout the County. This organization, the Contra Costa Transportation Authority (CCTA), determined that to facilitate efficient inter-governmental relations, Measure "C" transportation issues should be addressed by committees representing sub-regional areas of the County. The West Contra Costa Transportation Advisory Committee (WCCTAC) addresses these issues for the western part of the County, including San Pablo.

Measure "C" requires that jurisdictions participating in the return-to-source program take several actions, including the following transportation-related actions (CCTA, 1991):

1. Adopt a Growth Management Element for their General Plans;
2. Adopt Traffic Level of Service Standards;
3. Participate in their respective sub-regional committees;
4. Participate in the development of an Action Plan by their respective sub-regional committees to address traffic operations on routes with regional significance;
5. Adopt a Development Mitigation Program;
6. Develop a five-year Capital Improvement Program to meet and/or maintain Traffic Service and Performance Standards; and
7. Adopt a Transportation Demand Management Ordinance.

Consequently, these requirements have had an enormous influence on transportation-planning in West County and in the City of San Pablo. To comply with Measure "C", the City incorporated a Growth Management Element into its General Plan in 1992. It sets circulation-related policies and traffic level of service and performance standards.

State Proposition 111 requires each urban county in California to prepare a Congestion Management Program (CMP). The CCTA has been designated by the County as the Congestion Management Agency (CMA) for the County. The required components of the CMP are very similar to the components of the Growth Management Program, and the CCTA coordinates implementation of both programs to simplify implementation and to develop a unified set of policies.

### Level of Service Standards

In accordance with Measure "C" requirements, the City's adopted Growth Management Element states that the City will adopt level of service (LOS) standards consistent with Measure "C" standards.

Basic Routes. All roads in the City of San Pablo not designated as Routes of Regional Significance (see below) are considered Basic Routes. Measure "C" standards for Basic Routes vary by land use type. All signalized intersections on Basic Routes are subject to the level of service standards shown in Appendix A.

Most of the City is classified as "urban", except for the area in or near the St. Joseph's Cemetery bounded by I-80, Church Lane, and San Pablo Avenue, which is classified as "suburban". These areas are described on page GME-18, and shown on page GME-5A, of the Growth Management Element. The LOS standard for signalized intersections on Basic Routes in urban areas is LOS D ( $v/c = 0.90$ ); the standard for suburban intersection locations is LOS D ( $v/c = 0.85$ ).

Routes of Regional Significance. The City of San Pablo is somewhat unique in that all signalized intersections within the City boundaries are on designated Routes of Regional Significance. Performance standards on Routes of Regional Significance are the responsibility of several jurisdictions because of the high percentage of inter-jurisdictional through-traffic using them. For example, through-traffic accounts for about 50 percent of peak hour traffic and results from trips originating outside of the West County area. Hence, CCTA developed performance standards in consultation with other responsible jurisdictions for specific transportation facilities.

For I-80, the I-80 Corridor Analysis evaluated alternative strategies to maximize corridor capacity, minimize vehicular demand, and optimize operating characteristics. CCTA also prepared an Action Plan for the Routes of Regional Significance for the West County Area. That document describes measures that can be used to meet the proposed Traffic Service Objective (TSO) for each Route. TSOs include measures of effectiveness that gauge the extent to which TSOs are met, and include LOS, travel time, auto occupancy, transit utilization, or other measures.

## IV. Environmental Setting, Impacts and Mitigation Measures

### B. Transportation and Circulation

The proposed TSOs and standards for each Route are described in the West County Action Plan and are summarized in Appendix A for all Routes in San Pablo. The Action Plan contains proposed actions and corresponding jurisdictional responsibilities for their implementation and/or monitoring.

A comparison of the existing peak hour levels of service at intersections in San Pablo (Table IV.B.4) with the Traffic Service Objectives and standards (Appendix A) shows that the San Pablo Avenue / 23rd Street / Road 20 intersection does not meet the Traffic Service Objectives for San Pablo Avenue or 23rd Street, and the I-80 westbound off ramp at El Portal Drive (just outside the City limit) marginally meets the Traffic Service Objective for El Portal Drive.

#### Transportation Demand Management (TDM)

The West Contra Costa County Action Plan endorses efforts among its constituent jurisdictions to support the WCCTAC Transportation Demand Management Program. These would include the list of actions shown in Appendix A.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

The following Level of Service standards are used to determine whether the updated General Plan would have a significant effect on the environment. All signalized intersections within the City of San Pablo are on designated Routes of regional Significance. The CCTA has developed performance standards in consultation with other responsible jurisdictions for specific transportation facilities (WCCTAC, 1994; CCTA, 1995). The standards for signalized intersections on the following roadways are:

San Pablo Avenue: LOS E

El Portal Drive: LOS D

San Pablo Dam Road: LOS D, except at I-80 on/off ramps, where LOS F is the standard

23rd Street: LOS D

Rumrill Road: LOS D



## IV. Environmental Setting, Impacts and Mitigation Measures

### B. Transportation and Circulation

#### Approach

Future circulation deficiencies in San Pablo were evaluated by considering:

- development of, and changes to, land use in the City of San Pablo foreseeable by the Year 2010;
- growth in the remainder of Contra Costa County and the Bay Area through the year 2010, based on estimates prepared by the Association of Bay Area Governments (ABAG) in *Projections '90*; and
- transportation improvements contained in various adopted planning documents.

Travel demand on the transportation network was estimated using the West County Travel Demand Model (CCTA, 1993; CCTA, 1992b). Appendix A describes the approach for use of each of the Model's components.

#### Committed Roadway Network Changes

The sole change to the roadway network in the City, foreseeable by the year 2010, that would affect traffic circulation patterns is the extension of Broadway northwest to Giant Road. That roadway network change was incorporated into the analysis of future conditions. The City's *Capital Improvement Plan* (CIP) contains several roadway reconstruction projects that would improve pedestrian flow and would add landscaping amenities in areas of the City, but would not be traffic capacity-enhancing (City of San Pablo, 1994). Local connections to development that would occur under the updated General Plan also were incorporated into the model, based on assumptions developed in conjunction with City staff and information contained in adopted planning documents.

#### Future (2010) Intersections

**Impact Transportation-1: Traffic generated by development consistent with the updated General Plan would increase traffic through intersections on Routes of Regional Significance within the City of San Pablo Planning Area. This would be a less than significant impact.**

Table IV.B.5 shows the intersection level of service summary for Year 2010. The intersection capacities assumed for 2010 are the same as under existing conditions. The 2010 traffic conditions include background traffic growth projected by the West County Travel Demand Model, as well as traffic that would be generated by new development that would occur pursuant

IV. Environmental Setting, Impacts and Mitigation Measures  
B. Transportation and Circulation

TABLE IV.B.5: FUTURE (2010) AM & PM PEAK-HOUR INTERSECTION LEVELS OF SERVICE (LOS) AND VOLUME-TO-CAPACITY RATIOS (V/C) - UPDATED GENERAL PLAN

Signalized Intersections /a/	AM Peak Hour		PM Peak Hour		LOS Standard /b/
	V/C	LOS	V/C	LOS	
1. Rumrill Blvd. / Brookside Drive	0.40	A	0.46	A	D
2. San Pablo Ave. / Robert H. Miller Dr.	0.24	A	0.49	A	E
3. San Pablo Ave. / Road 20 / 23rd St.	0.98	E	0.96	E	E
4. San Pablo Ave. / El Portal Drive	0.81	D	0.90	D	E
5. San Pablo Ave. / Church Lane	0.61	B	0.66	B	E
6. San Pablo Ave. / San Pablo Dam Rd.	0.75	C	0.67	B	E
7. San Pablo Dam Rd / I-80 WB on-off /c/	0.97	E	0.94	E	F
8. San Pablo Dam Rd / I-80 EB on-off /c/	1.01	F	1.10	F	F
9. San Pablo Ave. / Rumrill Blvd. / College Ln.	0.79	C	0.72	C	D
10. El Portal Drive / Road 20	0.27	A	0.38	A	D
11. El Portal Drive / San Pablo Dam Rd.	0.66	B	0.70	B	D
12. El Portal Drive / I-80 WB off	0.85	D	0.61	B	D
13. El Portal Drive / I-80 EB on-off	0.65	B	0.63	B	D
14. 23rd Street / Rheem Avenue	0.59	A	0.66	B	D
15. 23rd Street / Barrett Avenue	0.29	A	0.50	A	D

/a/ Study intersections are shown on Figure IV.B.3.

/b/ Level of Service Objectives from WCCTAC, *West County Action Plan for Routes of Regional Significance*.

/c/ WB = Westbound; EB = Eastbound

SOURCE: DKS Associates

to the updated General Plan. The signalized intersections of San Pablo Avenue / Road 20 / 23rd Street, San Pablo Dam Road / I-80 Eastbound Ramps, and San Pablo Dam Road / I-80 Eastbound Ramps are projected to operate at LOS E, LOS E and LOS F, respectively, in 2010 during both the weekday a.m. and p.m. peak hours, under development consistent with the updated General Plan. In each case, the projected level of service would be at, but would not exceed, the LOS standard established for the intersection in the West County Action Plan for Routes of Regional Significance.<sup>1</sup> The v/c ratio at San Pablo Dam Road / I-80 Eastbound Ramps (LOS F) would increase, incrementally increasing vehicle delay at that intersection. All other intersections

<sup>1</sup> The LOS F standard for the San Pablo Dam Road / I-80 Eastbound Ramps was "grandfathered" into the Congestion Management Program (CMP) by the Contra Costa Transportation Authority on the basis of existing LOS F conditions when the CMP was formulated.

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would operate at levels of service better than their established LOS standard. Therefore, the impact would be less than significant.

The traffic volumes on which the LOS in Table IV.B.5 are based include regional traffic external to San Pablo (that is, traffic with both an origin and destination outside of San Pablo). An analysis of the regional traffic contribution to volumes on several links in the City shows the regional contribution to be substantial (see Appendix A for a table reporting the results).

**Impact Transportation-1: Mitigation Measures Proposed as Part of the updated General Plan**

Because the projected traffic conditions are considered to have less-than-significant impacts (based on the established LOS standards), no mitigation measures are required under CEQA. The projected traffic conditions do show, however, that congestion would occur with the updated General Plan. Relevant policies and implementing actions in the updated General Plan are presented in this EIR so as to disclose the framework within which the City of San Pablo would be able to oversee development that occurs in the City. The updated General Plan policies and implementing actions would help to minimize additional traffic and reduce traffic congestion. The following descriptions summarize the pertinent policies and implementing actions (see the updated General Plan for full descriptions).

The following are proposed as part of the Land Use, Economic Development and Community Design Element:

**Policy LU 1.1: Balanced Growth**

**Policy LU 2.1: Alternative Transportation Design**

**Policy LU 2.2: BART Linkage**

**Policy LU 2.4: AC Transit**

**Policy LU 2.5: High Density Housing**

**Policy LU 2.6: Centralized Transportation Facilities**

**Policy LU 4.6: Jobs and Housing Balance**

**Action LU 1.B: Design Guidelines and Standards**

**Action LU 2.A: Bikeways Master Plan**

**Action LU 2.B: Transit Advocacy**

**Action LU 2.C: Public Transit Stops - Location and Design Criteria**

**Action LU 2.D: Public Transit Incentives**

**Action LU 4.C: Parking Management Study and Plan**

**Action LU 9.A: Downtown Public Transit Terminal**



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The following are proposed as part of the Circulation, Public Facilities and Services Element:

**Policy CF 1.2 (Regional Circulation): Levels of Service**  
**Policy CF 1.3 (Regional Circulation): Service Forecasting**  
**Policy CF 1.4 (Regional Circulation): Maintenance of Street Hierarchy**  
**Policy CF 1.6 (Regional Circulation): Regional Transportation Management: West Contra Costa County Transportation Advisory Committee (WCCTAC) Action Plan**

**Action CF 1.B (Regional Circulation): Intersection LOS**  
**Action CF 1.C (Regional Circulation): Monitoring of Traffic Service Levels**  
**Action CF 1.D (Regional Circulation): Development Conditions**

**Policy CF 1.7 (Local Circulation): Commercial District**  
**Policy CF 1.8 (Local Circulation): Residential Streets**  
**Policy CF 1.13 (Local Circulation): Richmond Parkway**

**Action CF 1.F (Local Circulation): Roadway Urban Design Improvement and Management Plan**  
**Action CF 1.G (Local Circulation): Intersection Redesign**  
**Action CF 1.J (Local Circulation): Transportation Demand Management**

**Policy CF 1.14 (Alternative to Automobile Use): BART Extension**  
**Policy CF 1.15 (Alternative to Automobile Use): Public Transit Providers**  
**Policy CF 1.16 (Alternative to Automobile Use): Bicycle Routes**  
**Policy CF 1.17 (Alternative to Automobile Use): Pedestrian Routes**  
**Policy CF 1.18 (Alternative to Automobile Use): Land Use and Design Standards**

**Action CF 1.M (Alternative to Automobile Use): Education Programs**  
**Action CF 1.N (Alternative to Automobile Use): BART Extension**  
**Action CF 1.O (Alternative to Automobile Use): Multi-Modal Transit Centers**  
**Action CF 1.P (Alternative to Automobile Use): Pedestrian-Oriented Right of Way Improvements**  
**Action CF 1.R (Alternative to Automobile Use): Reduction of Work Trips**  
**Action CF 1.S (Alternative to Automobile Use): Bicycle Route Master Plan**

The Circulation, Public Facilities and Services Element lists other policies and implementing actions, not cited above, that could help to reduce traffic congestion and promote alternative modes of transportation:

- **Policy CF 1.1 (Regional Circulation): Regional Cooperation**
- **Policy CF 1.5 (Regional Circulation): Regional Operating Conditions and Image: Major Arterials and Parkways**
- **Policy CF 1.9 (Local Circulation): Public Right-of-Way Improvements**
- **Policy CF 1.11 (Local Circulation): Parking Management**
- **Action CF 1.A (Regional Circulation): Safety Upgrade Program**



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- Action CF 1.E (Local Circulation): Consistency with Roadway and District Improvements
- Action CF 1.H (Local Circulation): Zoning Ordinance Regulations - Parking Standards
- Action CF 1.I (Local Circulation): Parking Management Study
- Action CF 1.K (Local Circulation): Truck Routes
- Action CF 1.L (Local Circulation): Roadway and Intersection Safety Improvements
- Action CF 1.M (Local Circulation): Alleyways
- Action CF 1.Q (Alternative to Automobile Use): Pedestrian-Oriented Private Property Improvements

**Impact Transportation-1: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

**Policy P2.1:** The City shall adopt and implement a development mitigation program requiring developers to pay the costs necessary to mitigate impacts of their development projects on the local transportation system.

**Policy P2.2:** The City shall participate in development of a regional traffic mitigation program and Action Plan for West County Subregion through membership in West Contra Costa Transportation Advisory Committee (WCCTAC).

**Policy P2.3:** The City shall ensure that revenue from Measure "C" shall not be used to replace private developer costs and that new development pay its share of the costs associated with providing facilities for fire, police, parks, sanitary, water and flood control, by attaching project specific mitigation requirements as conditions of approval for any new development.

**Policy P2.4:** The City shall actively participate in cooperative, multi-jurisdictional regional transportation planning to reduce cumulative regional traffic impacts of development through membership in WCCTAC.

**Policy P2.5:** The City shall develop a program to systematically monitor and review performance standards for intersections within the City on a periodic basis. Unsignalized intersections will also be monitored and reviewed in cases where such an intersection is expected to meet the traffic signal warrants within the current five-year Capital Improvements Plan (CIP). In the event that any Basic Route signalized intersection falls below LOS standards, the City shall consider amendments to its General Plan, Zoning Ordinance, CIP or other relevant plans and policies, necessary to bring such intersection into conformance with the standards.

**Policy P2.6:** In the event that such amendments described in Policy P2.5 are not feasible or possible for reasons specified in the CCTA's "Criteria for Findings of Special Circumstances," application for findings of special circumstances shall be made to the CCTA. The request shall include identification of alternative standards and proposed mitigation measures.

IV. Environmental Setting, Impacts and Mitigation Measures  
B. Transportation and Circulation

**Policy P2.7:** Capital projects sponsored by the City and necessary to maintain and improve traffic operations will be included in the five-year CIP. Funding sources for such projects as well as intended project phasing will be generally identified in the CIP.

**Policy P2.10:** The City shall adopt and implement a Transportation Demand Management (TDM) Program in cooperation with other jurisdictions within West County Subregion to attain traffic service standards.

**Policy P2.11:** The City shall annually complete and submit a compliance checklist to the CCTA for the purpose of reporting on compliance with the Contra Costa County Growth Management Program.

**Policy P2.12:** The City shall require traffic impact analysis for any development project which is estimated to generate 100 or more a.m. or p.m. peak-hour trips based upon the trip generation rates as listed in the Institute of Traffic Engineers (ITE) *Trip Generation* 4th Edition.

**Policy P2.13:** Any required traffic impact analysis shall determine whether the project could cause a signalized intersection or freeway ramp to exceed the applicable standard and shall identify mitigation and costs necessary to bring the intersection or ramp into conformance with LOS standards. In no event shall Local Road Improvement and Maintenance Funds replace development mitigation cost requirements.

**Policy P2.14:** No new development project expected to generate over 100 peak-hour vehicle trips in the peak direction will be approved unless the City has made Findings of Consistency with the Level of Service Standards adopted in Section 2.3 of this Element.

**Policy P2.15:** The City shall participate in the development and implementation of the State mandated Congestion Management Program (CMP) for the Contra Costa County by working cooperatively with the CCTA (designated as the Congestion Management Agency for Contra Costa County), WCCTAC and other public and regional agencies.

**Policy P2.16:** The City shall incorporate the Level of Service Standards of Section 2.3 into the review of new development projects. If it cannot be demonstrated prior to project approval that levels of service are guaranteed, development shall be temporarily deferred until the standards can be met or assured.

**Policy P2.17:** The City shall place a higher priority of facilitating trips with origins or destinations within the community rather than on efforts to provide improvements for through trips.

**Impact Transportation-1: Mitigation Measures Identified in This EIR**

No additional mitigation required.

**Impact Transportation-1: Significance After Mitigation**

As stated previously, the impact would be less than significant prior to mitigation (because levels of service would not exceed the established standards. Therefore, the impact would be less than significant after mitigation.

Freeway Operations

**Impact Transportation-2: Traffic generated by development consistent with the updated General Plan would increase traffic on the I-80 freeway. This would be a less than significant impact.**

Peak-hour operations on I-80 are forecast to be poor in 2010, even with completion of the proposed HOV lanes and other improvements. I-80 is projected to operate at LOS E or F in the peak-flow direction east and west of El Portal Drive and San Pablo Dam Road in 2010 during the peak periods (WCCTAC, 1994; CCTA, 1995). Technically, because the Congestion Management Program (CMP) LOS standard for I-80 between the Alameda County Line and State Route 4 is LOS F, it is not possible to exceed the LOS standard; there is no level of service condition worse than LOS F. Although implementation of the updated General Plan would add traffic to I-80, it would not exceed the LOS standard. Therefore, the impact is considered to be less than significant.

**Impact Transportation-2: Mitigation Measures Proposed as Part of the updated General Plan**

See Transportation-1, above.

**Impact Transportation-2: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

See Transportation-1, above. Note that policies in the City's Growth Management Element promote participation in development of a regional traffic mitigation program and Action Plan for the West County, and implementation of the Contra Costa County CMP. The following planned capital projects for I-80 are included in the West Contra Costa County Action Plan (most of these measures would be outside the authority of the City of San Pablo):



IV. Environmental Setting, Impacts and Mitigation Measures  
B. Transportation and Circulation

1990-2000

- a. Widen for HOV lanes from Bay Bridge toll plaza to State Route (SR) 4
- b. Construct Atlas Road interchange, including HOV ramps
- c. Construct eastbound auxiliary lane between Richmond Parkway and Appian Way
- d. Install ramp metering hardware at all on-ramp locations
- e. Construct 200-stall Park and Ride lot at Atlas Road interchange
- f. Construct auxiliary lanes from Central Avenue to San Pablo Dam Road
- g. Construct Park and Ride Lot at the SR 4 interchange
- h. Add transit/HOV ramps in median at Cutting Boulevard

2000-2010

- a. Reconstruct SR 4 interchange
- b. Widen for HOV lanes from SR 4 to Carquinez Bridge toll plaza

The following is a summary of the Traffic Service Objectives and Actions for I-80 included in the West Contra Costa County Action Plan. Responsibility for implementation rests with the West Contra Costa Transportation Advisory Committee, its member jurisdictions (including San Pablo), and applicable transit agencies (many of these measures would be outside the authority of the City of San Pablo).

Objective: Increase peak-direction vehicle occupancy on I-80 by 15 percent by 2005.

Actions: Support construction of HOV lanes between SR 4 and Carquinez Bridge.  
Seek MTC funding to analyze Richmond/Rodeo-to-San Francisco ferry.  
Promote maximum use of new HOV lanes (through bridge toll incentives).  
Encourage increased HOV usage by supporting incentives such as free toll bridge crossings for vehicles in HOV lanes.  
Support increases in Carquinez Bridge tolls for single-occupancy vehicles, for the purpose of increasing HOV and transit incentives in the corridor.

Objective: Increase peak-direction transit ridership in I-80 corridor by 20 percent by 2000.

Actions: Support timed bus/train transfer between BART, AC Transit, and others.  
Support continued shuttle service to BART stations.  
Participate in I-80 corridor study.  
Promote increased frequency of El Sobrante-Richmond-San Francisco buses.  
Support expansion of express buses in I-80 corridor.  
Encourage adequate parking and bus service at West County BART stations.

Objective: Achieve 50 percent midday utilization of park and ride lots by 2000.

Actions: Support greater security and amenities at park and ride lots.  
Promote adequate transit service to park and ride lots.

Objective: Increase daily West County BART ridership by 10 percent by 2000.

Actions: Support high-level ongoing maintenance and improvements at stations.  
Support increased security at stations.



IV. Environmental Setting, Impacts and Mitigation Measures  
B. Transportation and Circulation

Objective: Achieve daily commuter rail ridership of 6,400 by 2000.

Actions: Support commuter rail from Fairfield and Brentwood to West Oakland.  
Assist in determination of appropriate West County station locations.  
Support rail stations in Hercules and elsewhere to intercept I-80 vehicle traffic.

**Impact Transportation-2: Mitigation Measures Identified in This EIR**

None required.

**Impact Transportation-2: Significance After Mitigation**

As stated previously, the impact would be less than significant prior to mitigation (because levels of service would not exceed the established standards. Therefore, the impact would be less than significant after mitigation.

Public Transportation

**Impact Transportation-3: Policies included in the updated General Plan could result in increased use of alternatives to the single-occupancy vehicle. This would be a less than significant impact.**

Use of alternatives to the single-occupancy vehicle will increase if the West Contra Costa Transportation Advisory Committee and its member jurisdictions, including San Pablo, are successful in reducing traffic in the I-80 corridor. Several improvements to transit facilities in San Pablo and the West County area are currently under consideration. See the Mitigation Measures under Impact Transportation-2 for proposed improvements in the Draft West Contra Costa County Action Plan. Provisions included in the updated General Plan would encourage transit use (see Impact Transportation-1: Mitigation Measures Proposed as Part of the Updated General Plan).

**Impact Transportation-3: Mitigation Measures Proposed as Part of the updated General Plan**

See the discussion of the impact, above.

**Impact Transportation-3: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

See the discussion of the impact, above.

**Impact Transportation-3: Mitigation Measures Identified in This EIR**

None required.

**Impact Transportation-3: Significance After Mitigation**

Less than Significant.

**Bicycle and Pedestrian Facilities**

**Impact Transportation-4: Development that would occur pursuant to the updated General Plan could encourage walking and bicycle use. This would be a less than significant impact.**

In undeveloped areas, pedestrian sidewalks would normally be provided as part of the developer's responsibility. The City could encourage developers to provide bicycle paths as part of integrated site planning. Provisions included in the updated General Plan would encourage walking and bicycle use, where feasible (see Impact Transportation-1: Mitigation Measures Proposed as Part of the Updated General Plan).

**Impact Transportation-4: Mitigation Measures Proposed as Part of the updated General Plan**

See Impact Transportation-1, above.

**Impact Transportation-4: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

See Impact Transportation-1, above.

**Impact Transportation-4: Mitigation Measures Identified in This EIR**

None required.

**Impact Transportation-4: Significance After Mitigation**

Less than Significant.

Emergency Vehicle Access

**Impact Transportation-5: Traffic generated by development consistent with the updated General Plan would contribute to congestion on local roadways. This would be a less than significant impact.**

As stated in the Roadway Network Impacts discussion, some intersections within San Pablo are projected to operate at congested levels of service (although not at levels that would exceed LOS standards established for the intersections in 2010). Another constraint to emergency vehicle travel could be traffic volumes on San Pablo Avenue and on I-80. Given emergency vehicles' ability to travel outside normal traffic lanes, this effect would not appear to be substantial.

**Impact Transportation-5: Mitigation Measures Proposed as Part of the updated General Plan**

See Impact Transportation-1, above, for measures that would help to reduce or minimize congestion.

**Impact Transportation-5: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

See Impact Transportation-1, above.

**Impact Transportation-5: Mitigation Measures Identified in This EIR**

None required.

**Impact Transportation-5: Significance After Mitigation**

The impact would be less than significant before and after mitigation.

IV. Environmental Setting, Impacts and Mitigation Measures  
B. Transportation and Circulation

REFERENCES - Transportation and Circulation

AC Transit, *Street and Route Map*, May 1995a.

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Bay Area Rapid Transit (BART), *Short Range Transit Plan*, 1995.

City of San Pablo, *General Plan, Circulation Element*, adopted October, 1980.

City of San Pablo, *General Plan, Growth Management Element*, adopted April, 1992.

City of San Pablo Community Development Department, Public Works Division, *Proposed Five-Year Capital Improvements Plan*, April 18, 1994.

Contra Costa Transportation Authority (CCTA), *Growth Management Implementation Documents*, December 1990.

Contra Costa Transportation Authority (CCTA), *1991 Contra Costa Congestion Management Program*, October 1991.

Contra Costa Transportation Authority (CCTA), *Intersection Level of Service Analysis Program, Users Manual*, September 1992a.

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Dowling Associates, *Existing Levels of Service at West County Signalized Intersections*, April 1992.

Eller, John, Assistant Planner, City of San Pablo, telephone conversation, May 1, 1996.

Transportation Research Board, *Transportation Research Circular 212*, 1980.

West Contra Costa Transportation Advisory Committee (WCCTAC) *West Contra Costa County Action Plan for Routes of Regional Significance*, December 9, 1994.



### C. POPULATION, EMPLOYMENT AND HOUSING

#### INTRODUCTION

This section identifies the potential impacts on population and employment, housing demand, and the jobs/housing balance that would result from implementation of the updated General Plan.

Association of Bay Area Governments (ABAG) data for the City of San Pablo include figures for baseline population, jobs, and demographic information in year 2010. City of San Pablo staff have estimated project-related figures for the updated General Plan in year 2010. Population estimates for the updated General Plan were calculated by multiplying the persons per household rate by the projected housing development. The City-wide estimate of 3.05 persons per household is based on ABAG's forecast for San Pablo in 2010 contained in *Projections '94* (ABAG, 1993). The estimated number of additional jobs is based on an area-by-area analysis of the potential percentage increase in development, applied to 1990 employment figures. Employed residents are the product of the estimated number of residents and a ratio of 1.21 employed residents per household (ABAG, 1993). As stated in the Project Description, the projected housing and commercial and industrial development in 2010 are based in large part on economic studies prepared as part of the General Plan update.

Many of the numbers in this section are for the City of San Pablo and its Sphere of Influence. The Sphere of Influence was included so that numbers from several sources could be compared and analyzed.

#### SETTING

##### Population

The 1990 population of San Pablo (including the Sphere of Influence) was 28,560 (U.S. Census, 1990). As shown in Table IV.C.1, the City's population in 1970 was approximately 22,000 (City of San Pablo, 1993). The population of the City decreased between 1970 and 1975, but then increased from 1975 to 1980, as the City implemented redevelopment and housing programs (City of San Pablo, 1980). Between 1980 and 1990, the City's population increased by approximately 24 percent. ABAG projections indicate that in 2000 and 2010, based on the existing (1980) *General Plan*, the City's population is expected to reach approximately 32,000 and 33,400 people, respectively (ABAG, 1993).

IV. Environmental Setting, Impacts and Mitigation Measures  
C. Population, Employment, and Housing

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TABLE IV.C.1: CITY OF SAN PABLO POPULATION TRENDS

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<u>Year</u>	<u>Total Population/a/</u>	<u>Net Increase</u>	<u>Net Increase (Percent)</u>
1970/b/	21,461	N/A	N/A
1980/c/	23,010	1,549	7.2
1990/c/	28,560	5,550	24.1
2000/d/	32,000	3,440	12.0
2010/d/	33,400	1,400	4.4

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N/A = Not applicable.

/a/ Includes San Pablo Sphere of Influence.

/b/ Number for 1970 is from Housing Element of the current *General Plan*. Number may not be directly comparable to other totals (Housing Element shows population *decreasing* from 1970 to 1980).

/c/ Number for 1980 is from ABAG *Projections '94*; number for 1990 is from 1990 U.S. Census.

/d/ ABAG forecasts are based on current *General Plan*.

SOURCE: City of San Pablo, General Plan Housing Element, 1993; 1990 U.S. Census of Housing and Population; ABAG, *Projections '94*, December 1993.

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The number of persons per household in San Pablo in 1990 was estimated to be 2.84 (U.S. Census). This figure represents an increase from the estimated 2.49 persons per household in 1980, and is higher than the Contra Costa County estimate for 1990 of 2.64 persons per household (ABAG, 1993).

The City's population is composed of many different ethnic/racial groups, with Caucasians and non-Caucasians each accounting for roughly half of the City's residents. African-American residents are the second-largest largest racial group in the City, accounting for approximately 21.3 percent of the total population. Asian and Pacific Islanders account for approximately 17.2 percent of the total population. Persons of Hispanic origin (who are considered by the Census to be of any race) account for approximately 25.6 percent of the total population (U.S. Census, 1990).

IV. Environmental Setting, Impacts and Mitigation Measures  
C. Population, Employment, and Housing

Census data show that, in general, the average age of City residents is higher than most of the surrounding communities. The City's median age in 1990 was 31.7 years, compared to 24.2 years in Contra Costa County. The median age in San Pablo increased from 1980 to 1990 (U.S. Census, 1990; City of San Pablo, 1993). Age characteristics for the City's 1990 population are presented in Table IV.C.2.

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TABLE IV.C.2: CITY OF SAN PABLO AGE CHARACTERISTICS, 1990

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<u>Age Group</u>	<u>Number</u>	<u>Percentage</u>
Under 15 years	7,570	26.5
15 - 24 years	3,885	13.6
25 - 44 years	9,961	34.9
45 - 64 years	4,119	14.4
65 years and over	<u>3,025</u>	<u>10.6</u>
TOTAL	28,560	100.0

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SOURCE: U.S. Census, 1990.

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In 1990, the estimated average (mean) household income for the City of San Pablo was \$32,922 (all income numbers are presented in constant 1990 dollars). This represents an 8.4 percent increase from the 1980 average household income of \$30,360. The estimated average household income for Contra Costa County in 1990 was \$59,434; the average income in 1980 was \$50,050. (ABAG, 1993) The lower average household income may be related to the relatively high "dependency ratio" in the City (persons under 18 or over 65 years old) (City of San Pablo, 1993). The City also has lower levels of educational attainment than the County as a whole (U.S. Census, 1990).

#### Employment

In 1990, there were approximately 8,340 jobs in San Pablo, constituting approximately 2.7 percent of the total 305,140 jobs in Contra Costa County (ABAG, 1993). The largest employer in the City is Casino San Pablo. Other large employers are Contra Costa Community College,

IV. Environmental Setting, Impacts and Mitigation Measures  
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Brookside Hospital, and the City itself. In comparison to Contra Costa County, San Pablo had a higher percentage of service jobs, and lower percentages of manufacturing/wholesale and other jobs (see Table IV.C.3). As shown in Table IV.C.4, there were an estimated 10,103 employed residents in San Pablo in 1990, or 35 percent of the total population (U.S. Census, 1990).<sup>1</sup> Contra Costa County, by comparison, had 409,351 employed residents in 1990, or 51 percent of the total County population (ABAG, 1993).

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TABLE IV.C.3: JOBS BY INDUSTRIAL SECTOR, SAN PABLO, 1990

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<u>Industrial Sector</u>	<u>Number of Jobs/a/</u>	<u>Percent of Total Jobs</u>
Agriculture and Mining	10	0.1
Manufacturing and Wholesale	570	6.8
Retail	1,990	23.9
Services	4,520	54.2
Other/b/	<u>1,250</u>	<u>15.0</u>
Total	8,340	100.0

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/a/ Includes Sphere of Influence.

/b/ Finance/insurance/real estate, government, transportation/communication/utilities, and construction.

SOURCE: ABAG, *Projections '94*, 1993.

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<sup>1</sup> "Employed residents" as discussed in this section are based on figures from the U.S. Census and ABAG's *Projections '94*. Section IV.K., Air Quality, uses a different definition of employed residents for its calculation of potential air quality impacts.



TABLE IV.C.4: INDUSTRIAL SECTOR OF EMPLOYED RESIDENTS, SAN PABLO, 1990

<u>Industrial Sector</u>	<u>Number of Employed Residents/a/</u>	<u>Percent of Total Employed Residents</u>
Agriculture and Mining	268	2.6
Manufacturing and Wholesale	1,928	19.1
Retail	1,597	15.8
Services	3,210	31.8
Other/b/	<u>3,100</u>	<u>30.7</u>
Total	10,103	100.0

/a/ Includes Sphere of Influence.

/b/ Finance/insurance/real estate, government, transportation/communication/utilities, and construction.

SOURCE: Williams-Kuebelbeck & Associates, Inc., 1995, based on 1990 Census data.

A comparison of San Pablo jobs to the occupations of employed residents (Tables IV.C.3 and IV.C.4) indicates that there were substantially more residents with jobs in the manufacturing and wholesale and "other" sectors than there were San Pablo jobs in those sectors. Conversely, there were substantially more service jobs in San Pablo than there were residents with service jobs. ABAG projections (based on the current *General Plan*) indicate that manufacturing and wholesale jobs in San Pablo will grow substantially in the City, service jobs will also grow (but not by as much), agriculture and mining and "other" jobs will remain relatively constant, and retail jobs will decrease slightly (ABAG, 1993).

#### Housing

As of 1990, there were approximately 9,400 housing units in the City (City of San Pablo, 1993). Of the total housing stock in 1989, approximately 48 percent were single-family detached homes, 44 percent were multi-family units, and about 7 percent were mobile homes (City of San

IV. Environmental Setting, Impacts and Mitigation Measures  
C. Population, Employment, and Housing

Pablo, 1993). In comparison, 72 percent of the County's housing stock in 1990 were single-family homes. The *General Plan* Housing Element notes that residential growth in the City is limited because of a lack of readily developable land, and that residential construction has slowed considerably (City of San Pablo, 1993). Over 90 percent of the net additions to the City's housing stock in the 1980s consisted of multi-family units.

Although housing prices have increased in the last decade, homes in San Pablo generally remain more affordable than other places in the Bay Area. The median value of a owner-occupied housing unit in the City in 1990 was \$116,900. Approximately 84 percent of the homes were valued at less than \$150,000. The median value of a owner-occupied housing unit in Contra Costa County in 1990 was \$217,100 (U.S. Census, 1990). The City's housing stock is generally older than the County's housing stock (City of San Pablo, 1993).

Jobs/Housing Balance

Many communities in the Bay Area have experienced greater growth in housing units than in jobs (or vice versa), resulting in a jobs/housing "imbalance." One measure of the jobs/housing balance in a community is a comparison of the number of jobs with the number of employed residents. It is assumed that a balance in the number of employed residents and job opportunities would minimize commuting, thus reducing environmental impacts related to air quality and transportation. In an ideal situation, the ratio of jobs to employed residents would be 1:1, meaning (in theory) that each of the City's employed residents would hold a job in the City. In practice, this is usually not the case, since there are other factors that affect housing and job location choices.

Using this means of comparison, there were 8,340 jobs and 10,103 employed residents in San Pablo in 1990, or 0.83 jobs for every employed resident. This imbalance theoretically resulted in a net out-commute of the additional 1,763 employed residents to jobs outside the area.<sup>2</sup> ABAG projections indicate that in 2010, under the current *General Plan*, San Pablo would have a jobs/employed residents ratio of 0.68, with approximately 8,950 jobs and 13,100 employed residents (ABAG, 1993). These numbers indicate an unfavorable shift in the jobs/housing balance, as fewer of the City's residents could work within City limits. (Note that if the ABAG

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<sup>2</sup> The estimate of 10,103 employed residents comes from U.S. Census figures. ABAG figures for 1990 show 11,716 employed residents in San Pablo. Comparison of the ABAG number with the number of jobs indicates 0.71 jobs for every employed resident and an excess of 3,376 employed residents over jobs.

estimate of 11,716 employed residents in 1990 were used in this comparison, the shift would not be as large.)

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Under CEQA, a project would normally have a significant impact on the environment if it would induce substantial growth or concentration of population or displace a large number of people (Appendix G, *CEQA Guidelines*). Appendix I of the *CEQA Guidelines* indicates that a project could have a significant effect on the environment if it altered the location, distribution, density or growth rate of the human population of an area. According to the *CEQA Guidelines* Section 15131(a), economic or social effects of a project are not treated as significant effects on the environment. If the proposed project were to cause physical changes as a result of economic or social changes, then the physical effects (such as increased traffic from increased employment-related travel or destruction of habitat resulting from housing construction to accommodate increased population) could be considered significant. Those impacts are discussed in the applicable sections of this document.

### Less-than-Significant Impacts

Table IV.C.5 shows population, employment, and housing data for the City of San Pablo (and its Sphere of Influence) in 1990 and 2010, under both the existing and updated General Plans. As shown in the table, development consistent with the updated General Plan would increase the population, number of housing units, and employed residents relative to existing conditions, but would decrease them relative to the existing *General Plan*. The number of jobs would increase relative to both existing conditions and the current *General Plan*. It is important to note that both the existing and proposed *General Plan* scenarios are based on what is reasonably anticipated by 2010, not full development of all parcels at the maximum density allowed.

Based on the projections in Table IV.C.5, the development anticipated under the updated General Plan would lower the ratio of jobs to employed residents slightly (from 0.83 in 1990 to 0.81 in 2010). However, given the general nature of the projections and the other factors that affect a community's jobs/housing balance, the change is not considered to be significant. In addition, use of the ABAG estimate of 11,716 employed residents in 1990 (instead of the U.S. Census



IV. Environmental Setting, Impacts and Mitigation Measures  
C. Population, Employment, and Housing

TABLE IV.C.5: EXISTING AND PROJECTED HOUSING UNITS, POPULATION AND EMPLOYMENT, CITY OF SAN PABLO /a,b,c,d/

	<u>Total Population</u>	<u>Housing Units</u>	<u>Total Jobs</u>	<u>Employed Residents</u>	<u>Jobs/ Employed Residents</u>
1990 Conditions	28,560	9,420	8,340	10,103	0.83
2010 - Existing General Plan	33,400	10,800	8,950	13,100	0.68
2010 - Proposed General Plan	31,600	9,800	9,600	11,900	0.81

- /a/ Source for 1990 conditions for total population, number of housing units, and number of employed residents is the 1990 U.S. Census. Source for 1990 conditions for total jobs is the Association of Bay Area Governments' *Projections '94*.
- /b/ Source for 2010 Existing *General Plan* conditions for total population, number of households, total employment, and employed residents is Association of Bay Area Government's *Projections '94*. ABAG's housing estimate is for households (occupied housing units) rather than total housing units.
- /c/ Source for 2010 Proposed *General Plan* conditions for total population and total housing units is the City of San Pablo, using 1990 Census data. Source for total jobs is the City of San Pablo, using 1990 Census data and ABAG projections. Employed residents for 2010 was calculated using the ABAG factor of 1.21 employed residents per household (and applying it to the estimate of housing units).
- /d/ Numbers are for Sphere of Influence.

SOURCE: U.S. Census, 1990; Association of Bay Area Governments, 1993; City of San Pablo, 1995; Environmental Science Associates.

figure reported in the table) would result in a 1990 jobs-to-employed-residents ratio of 0.71, and an increase of the ratio with the updated General Plan (a beneficial impact).

As noted, the jobs/employed residents ratio implies a theoretical balance or imbalance between a community's employment and housing supply. Because the type of jobs created would determine the workers who would fill those jobs, the creation of jobs in San Pablo under the updated General Plan would not in itself result in providing employment to all San Pablo



## IV. Environmental Setting, Impacts and Mitigation Measures

### C. Population, Employment, and Housing

residents who currently work outside the City. Salaries offered, education required, and unique attributes of particular jobs would, along with other factors, determine whether new jobs would be filled by current residents, by persons who would move to San Pablo from elsewhere, or by persons who would commute to new jobs in San Pablo from housing elsewhere. New jobs could result in demand for new housing, either in San Pablo or elsewhere, if those jobs were not suited for current San Pablo residents. New service jobs could result in a particular demand for low- and moderate-cost housing.

Policies in the updated General Plan emphasize mixed-use development that provides for residences in proximity to employment opportunities. Assuming that a jobs/housing balance is desired, this would be a beneficial impact, as the total number of residents who commute into and out of San Pablo could be less than under the existing General Plan. The potentially significant indirect impacts related to an increase in total population, employed residents, and total employment are discussed in Sections IV.A., Land Use, Plans and Policies, IV.B., Circulation, and IV.K., Air Quality. Direct and indirect impacts related to increased density of land use and greater development are discussed throughout the impact analysis in Chapter IV of this report.

#### REFERENCES - Population, Employment and Housing

Association of Bay Area Government (ABAG), *Projections '94*, December 1993.

City of San Pablo, *General Plan*, Housing Element, December 1993.

City of San Pablo, *General Plan*, Land Use Element, 1980.

U.S. Census, Summary of Population and Housing, 1990.

## **D. VEGETATION AND WILDLIFE**

### **SETTING**

#### **Regional Setting**

The City of San Pablo is located near the southeast side of San Pablo Bay, north of San Francisco Bay. The region supports coastal vegetation including salt and freshwater marshes, coastal prairie, riparian woodlands, upland woodlands, and coastal scrub.

Tidal wetlands occurring west of the City in Richmond include Point Pinole Marsh, Giant Marsh, San Pablo Creek Marsh, and Wildcat Creek Marsh, and comprise approximately 440 acres along the Bay fringe. Marshes located west of the City (downstream from City waterways) are important habitats, serving as feeding and resting sites for migrating birds along the Pacific Flyway migration route and for a number of special status bird and mammal species. Areas of seclusion, like Brooks Island and Red Rock Island (in the Bay near Richmond), allow species such as mallards, pelicans, loons, cormorants, and herons to feed and rest.

The Berkeley Hills, San Pablo Ridge, and Sobrante Ridge occur east and southeast of San Pablo. The scrubs and grassland on El Sobrante and San Pablo ridges (including Alvarado Park, just southeast of the City) and in El Sobrante Valley provide habitat for wren tits, towhees, blue-gray gnatcatchers, scrub-jays, quail and brush rabbits. Ungrazed grasslands provide habitat for large (e.g., deer) and small common mammals and birds that attract red-tailed hawks, kestrels, rattlesnakes, gopher snakes, and coyote. San Pablo Reservoir (east of El Sobrante Ridge) is used by the Aleutian goose and the bald eagle between mid-November and mid-February.

#### **Vegetative Resources Within the City**

Overall, the City is highly urbanized (there are few undeveloped areas) and contains only remnants of native vegetative communities. Figure IV.D.1 shows the vegetative communities within the City.

#### **Resources Along Waterways**

Four waterways, running generally from east to west, cross the City and constitute the City's major biological resources. These include Wildcat Creek, San Pablo Creek, Rheem Creek, and an unnamed drainage at the northern end of the City.



SOURCE: Environmental Science Associates, based on aerial photographs

San Pablo General Plan Consulting Services / 950160 ■

**Figure IV.D.1**  
Biological Resources

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

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Wildcat Creek originates on the eastern side of the Berkeley Hills and runs through Wildcat Canyon down to Wildcat Creek Marsh, with a total length of 11 miles. Typical species along Wildcat Creek include willow and coast live oak, intermixed with boxelder, elderberry, California bay, coyote brush, blackberry, watercress, and poison oak. The riparian (area along the banks) strip along the creek is generally between 75 and 100 feet wide within the City, except on the west end of town, between Rumrill Boulevard and the AT & SF railroad, where the creek supports a riparian band of oaks measuring between 150 and 200 feet in width. Small strips of non-native grassland, dominated by soft chess, ripgut grass, wild oat, foxtail, and perennial ryegrass, occur to either side of this wooded area. Davis Park occurs along the southern edge of Wildcat Creek in the vicinity of 19th Street.

San Pablo Creek originates inland in the Briones Hills, flows through San Pablo Reservoir and El Sobrante Valley, approximately seven miles east of the Bay, and terminates in San Pablo Creek Marsh. San Pablo Creek is dominated by coast live oak riparian forest similar to Wildcat Creek.

Rheem Creek originates approximately 1.5 miles inland, is channelized and has vegetation routinely removed for flood control by County Maintenance. The unnamed drainage that occurs at the northern end of the City supports a mixture of vegetation, willows, and oaks that creates a riparian band approximately 100 feet in width. A narrow strip of non-native grassland occurs between Rheem Creek and the unnamed drainage to the west of and fronting San Pablo Avenue.

Downstream of the City of San Pablo, both Wildcat Creek and San Pablo Creek have undergone flood control modifications by the Contra Costa Flood Control and Water Conservation District and the U.S. Army Corps of Engineers.

##### Resources on Undeveloped Parcels

The following discussion is based on a review of current *General Plan* documents and aerial photographs.

Hillside properties east of I-80 support mature stands of coast live oak with an understory of native and naturalized grass, shrub, and wildflower species. Extremely isolated and small patches of heavily disturbed non-native grassland occur on the northeast side of Rumrill at Market (0.5 acres), a triangular parcel abutting Ken's Nursery along Road 20 (0.58 acres), and two small (less than 0.5 acre) lots along 23rd Street. These isolated parcels are not expected to



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support significant plant or wildlife resources. The area of grassland west of Rumrill Boulevard and south of Wildcat Creek is being partly developed with the Lao Project (Ho, 1996).

Landscaped vegetation occurs throughout the City and consists of blue gum, flowering plum, date palm, various pines, turf, periwinkle, tea roses, Monterey pine, coast redwood, alder, elm, and cottonwood, among others. The San Pablo Public Works Department is actively establishing an extensive tree planting program (Eller, 1995).

##### Wildlife Resources Within the City

Vegetation communities are defined by certain plant species adapted to specific environmental conditions. Wildlife habitats consist of areas or places where an organism lives, and are composed of various vegetation communities which comprise different areas for different life cycle needs, such as foraging (feeding) areas, nesting areas, and shelter from predators. Vertebrates, such as amphibians (animals that live on land and in water), reptiles, birds and mammals, are not as restricted to certain communities as invertebrates. Invertebrates (animals without a backbone, such as insects) are often food-plant-specific and require particular plants, usually in specific communities, for various stages of their life cycles. The lack of restriction for vertebrates allows them to use various communities for their foraging needs.

Riparian habitats within the City attract bird species that hover while catching insects, such as warbling vireo, and black phoebe. The American crow is found in this habitat and others, feeding on insects, fruits, carrion, amphibians, and reptiles. Predators, such as sharp-shinned hawks and red-shouldered hawks, nest in the canopy and feed on the smaller birds and amphibians. Omnivores, such as the raccoon and striped skunk, forage on invertebrate species, plant parts, amphibians and fruits. The striped skunk is found in most habitats within the City.

Riparian habitats within the City provide water, foraging, nesting, cover, and migrating corridors for a variety of wildlife species. These include insect eaters, such as ash-throated flycatcher, plain titmouse and dark-eyed junco, or foliage gleaners (gatherers) that feed on insects which live on plant leaves, such as Bewicks' wren. Scrub jay, Stellar's jay, and acorn woodpecker feed on bark insects as well as acorns. California quail and brown towhee are the ground foliage gleaners in this habitat. Red-shouldered hawks typically forage on small mammals in grasslands adjacent to the coast live oak riparian forest. Cooper's hawks and sharp-shinned hawks are often associated with this habitat and hunt small birds. Mammals such as grey squirrel forage and nest

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in the canopy of the trees while long-tailed weasels hunt for shrews and meadow voles on the ground. Larger mammals, such as mule deer, use the wet understory of this community, i.e., poison oak and blackberry bushes, in the form of shelter and food from the berries. Amphibians, such as Pacific slender salamander, rough-skinned newt and ensatina, can be found underneath the cover of fallen leaf litter and bark. City staff note the presence of fish in San Pablo Creek, as well as spottings of great white egrets (Eller, 1995). The great white egret would likely be foraging at the creek, and could possibly be nesting along the creek.

Grassland habitat attracts seed eaters as well as insect eaters. California quail, mourning dove, and meadowlarks are a few seed eaters that use grasslands for nesting. Insect eaters such as scrub jays, barn swallows, and mockingbirds use the habitat for foraging only. Mammals such as the California vole, deer mouse, broad-footed mole, and black-tailed jackrabbit forage and nest within the grassland. Mule deer may use grasslands on the east side of the City for grazing and for nesting at night. Small rodents attract raptors such as red-tailed hawks and red-shouldered hawks. Southern alligator lizard and Pacific slender salamander use the grassland to forage for invertebrates found within and underneath fallen logs. Woodlands occurring on the east side of the City are expected to support species similar to those described for riparian and grassland habitats.

Residential parks and disturbed areas provide little habitat for wildlife except for those species adapted to human habitation, such as starlings, golden crowned sparrows, and rock pigeons. These areas do not provide habitat for the larger mammalian species nor for predators, except as possible movement corridors. This habitat occurs in developed and/or partially developed areas.

##### Wetlands

Wetlands are defined by the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The Corps establishes certain criteria to determine whether an area may qualify as a wetland under the jurisdiction of the Corps. Areas that do qualify as "jurisdictional wetlands" are subject to certain regulations (see "Relevant Regulations" later in this section).

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Wetlands or "waters" within the City include Wildcat Creek, San Pablo Creek, Rheem Creek, and the unnamed drainage located in the northern portion of the City.<sup>1</sup> Other seasonal or perennial wetlands may occur on vacant lands within the City.

##### Special Status Species

"Special status species" include species that are rare, threatened or endangered, and species that are of other public concern.

##### Rare, Threatened, or Endangered Species

1. Plants that are listed or proposed for listing as rare, threatened, or endangered under the California Endangered Species Act (CESA) or federal Endangered Species Act (FESA);
2. Animals that are listed or proposed for listing as threatened or endangered under the California Endangered Species Act or federal Endangered Species Act;
3. Plants or animals that are Candidates (Category 1 or 2) for possible future listing as threatened or endangered under the federal Endangered Species Act;
4. Plants included on lists 1A, 1B, and 2 of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 1994);
5. Animals designated by the California Department of Fish and Game (CDFG) as "Species of Special Concern." Species of Special Concern include those animal species with California breeding populations that may face extinction in the near future; and
6. Animals that have been designated as "Protected" or "Fully Protected" by the state or federal government under law (e.g., the Bald Eagle Protection Act).

##### Other Concern

7. Plants included on lists 3 and 4 of the CNPS *Inventory of Rare and Endangered Vascular Plants of California* (CNPS, 1994); and
8. Plants or animals which have been identified as being of local or regional interest (e.g., those species identified as protected or of special interest by an adopted local policy).

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<sup>1</sup> Section 404 of the Clean Water Act governs waters of the United States. These include drainages and creeks as well as wetlands. The creeks in San Pablo are considered waters of the U.S.; some areas along the creeks in San Pablo may qualify as wetlands.



#### Special Status Species in San Pablo

*Helminthoglypta nickliniana bridgesi* (no common name), a federal Category 2 candidate snail, was identified along San Pablo Creek in 1950 (CNDDDB, 1995). This species tends to colonize under rock piles, tall grasses and weeds. No other special status animal or plant species have been reported to occur within the City, according to the California Natural Diversity Data Base. (A table showing special status species with the potential to occur in the City is included in Appendix B). Special status species that have limited potential to occur within the City include burrowing owl, Cooper's hawk, American badger, Greater western mastiff-bat, Pacific western big-eared bat, southwestern pond turtle, California red-legged frog, Foothill yellow-legged frog, western spadefoot toad, Monarch butterfly, San Francisco owl's clover, and Hospital Canyon larkspur.

The great white egret, which has been informally spotted along San Pablo Creek, is a California Species of Concern. If the egret is nesting along the creek, the nesting habitat would be considered sensitive.

A number of special status species occur west of the City within the coastal and salt marsh habitats of the Bay, downstream from City waterways (e.g., California black rail, California clapper rail, Caspian tern, salt marsh harvest mouse, salt marsh wandering shrew) and east of the City along El Sobrante and San Pablo ridges and in El Sobrante Valley (Alameda manzanita, Santa Cruz tarplant, Brewer's western flax).

#### Regulatory and Policy Context

##### Special Status Species

Special status species have varying degrees of legal protection under both Federal and California Endangered Species Acts (FESA and CESA), and recognition under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) share responsibility for management and protection of biological resources in the City. Under separate State and Federal legislation, each agency conducts a detailed review of any project that could affect a special status plant or animal species. If a species listed as endangered or threatened may be affected, the lead agency, as defined by CEQA and NEPA, must initiate a



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formal consultation with the USFWS and/or CDFG, as applicable under federal or state law. Refer to Appendix B for details concerning special status species protection.

#### Wetlands

A complex array of state and federal regulatory guidelines directs how the jurisdictional boundaries of wetlands are identified, defined, and regulated. The U.S. Army Corps of Engineers (Corps) is the major agency involved in wetland regulation under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Additional federal, state, and regional agencies that have jurisdiction over wetlands within the City of San Pablo include the Environmental Protection Agency (oversight authority on Corps 404 permits), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), California Coastal Commission (CCC), and California State Water Resources Control Board (SWQCB), in addition to regional and local agencies. The numerous agencies and statutory authorities that regulate wetlands within California are detailed in Appendix B.

#### Current General Plan Policies

The current San Pablo *General Plan* contains an Open Space and Conservation Element (Chapter III of the *General Plan*) that summarizes the findings of the Tri-Cities Citizens Advisory Committee (those findings are reported in detail in a separate document). The summary of policies related to vegetation and wildlife includes:

##### 1. Preservation of Open Space Areas

The Element designates all existing parks as open space and recommends that all unique natural areas, important wildlife habitats, and areas suitable for nature study, particularly near schools, should be designated as open space. Unfortunately the San Pablo Community is urbanized to the extent it has no marshes, mudflats or agricultural areas.

##### 2. Control and Protection of Certain Landforms

- b. *Creeks and Steambanks*. The Element identifies waterways worth preserving and recommends controls to preserve riparian vegetation, to protect owners and buyers of property from erosion and flooding, and to increase public access to the creeks.

##### 3. Environmental Management Programs

Many of the policies recommend that certain management techniques be followed to ensure that future development will not damage the environment. These policies can be divided into [four] categories:

- b. *Earth Resources.* The Element recommends that an erosion control plan and revegetation plan be required as part of grading permits, and that mineral production be planned and carried out to avoid destruction or degradation of the environment.
- c. *Wildlife and Vegetation.* The Element recommends that important wildlife habitats be preserved; that native plant species be used for landscaping; that unique plant communities be preserved; that fire hazard to new developments be reduced by fire-preventive landscaping techniques and by discouraging new construction on the north-facing slopes of Wildcat Canyon; and that agricultural use of the remaining area of prime farmland be encouraged.

#### 4. Public Education

The Citizens Committee was very concerned that the public be provided with more information about both the natural hazards and the natural resources in the area. The Open Space and Conservation Element will assist in meeting this goal by alerting both public agencies and the community to the valuable and sometimes unique land areas in the areas. The Open Space and Conservation Element will assist in meeting this goal by alerting both public agencies and the community to the valuable and sometimes unique land areas in the area. The Committee has also recommended that the City inform its citizens of the available flood insurance programs; of the need to reduce water consumption; of possible erosion hazards along creekbanks; of methods that can be used to reduce fire risk; and of the regional parks in the area.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

CEQA *Guidelines* Section 15065(a) specifies that a lead agency shall find that a project may have a significant effect on the environment when the project has the potential to ". . . substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number of a rare or endangered species . . ." The *Guidelines* (Appendix G) provide examples of impacts that normally are considered significant, including those that would:

- "substantially affect a rare or endangered species of animal or plant or the habitat of the species";

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- "interfere substantially with the movement of any resident or migratory fish or wildlife species"; or
- "substantially diminish habitat for fish, wildlife or plants."

The *Guidelines* (Section 15380) further define "rare or endangered species" as those species officially listed as threatened, endangered, or rare under federal or California law. In addition, the *Guidelines* provide that plant or animal species may be treated as "rare or endangered" even if not on one of the official lists if:

- its survival and reproduction in the wild are in immediate jeopardy,
- if the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens, or
- if it is likely to become endangered in the foreseeable future and may be categorized as "threatened" under federal law.

However, recent case law (*Sierra Club vs. City of Gilroy*, 1990 222 Cal. App. 3d.30, 47) may be interpreted as providing discretion to the lead agency as to whether a species is to be considered "rare or endangered" despite meeting one or more of these criteria.

Given these standards, a project would be considered to have a significant adverse impact on biological resources if it would result in substantial disruption to, or destruction of, any special status species, their habitat, or breeding grounds. As discussed previously, special status species include those plants and animals that are State and/or federally listed as endangered or threatened or are Category 1 or 2 candidates for federal listing; animals considered Species of Special Concern as designated by the CDFG; animals that are federally designated as "protected" or "fully protected," or plants appearing on CNPS Lists 1 or 2.

A project would also be considered to have a significant impact if it would result in a substantial loss of important plant or animal species; would cause a change in species composition, abundance or diversity beyond that of normal variability; or would indirectly result in the measurable degradation of sensitive habitats (e.g., wetlands, riparian corridors, vernal pools, oak woodlands) such as through the introduction of erosion or runoff materials.

Impacts to a particular biological feature (such as creeks, sensitive habitats, and habitats of rare or endangered species) would also be considered significant if the resource is either identified by the City of San Pablo and/or subject to jurisdiction under Section 404 of the Federal Clean Water



Act. These resources have typically been severely depleted since European settlement, and what might appear to be minor site-specific impacts could be cumulatively significant.

Impacts were generally considered less than significant if the habitats and species affected are common and widespread in the region and the State. Examples include areas supporting landscaping. These areas can readily be enhanced or rehabilitated.

**Impact Biology-1. Development consistent with the updated General Plan could directly and indirectly affect wetlands, streams, and riparian communities both within the City and downstream. This would be a significant project-specific and regionally cumulative impact.**

Wetlands and creeks that could be directly and indirectly affected include Wildcat Creek, San Pablo Creek, Rheem Creek, and an unnamed drainage at the northern end of the City, in addition to potential isolated wetlands. Both Wildcat Creek and San Pablo Creek have undergone flood control modifications by the Contra Costa Flood Control and Water Conservation District and the U.S. Army Corps of Engineers, downstream of the City. The riparian (area along the banks) strips along San Pablo Creek are generally between 75 and 100 feet wide (total) within the City; the riparian strips along Rheem and Wildcat Creeks within the City are generally narrower. Potential impacts to these waters of the United States could include both direct (e.g., filling, dredging, bridging, removal of riparian vegetation) and indirect (e.g., increased sedimentation, affects to downstream marshes) effects. Development of parcels within the City could increase other types of non-point source pollution. Runoff from streets, construction sites, roofs, and parking lots contains typical urban pollutants such as oil, grease, fuel, rubber, heavy metals, and solvents. Exhaust from motor vehicles contains lead and particulates that could be picked up by runoff and carried into nearby surface water bodies, such as San Pablo Bay. Degradation of surface and ground water quality would be a significant impact to wildlife and their habitats.

State and Federal policies on wetlands state that no net loss of acreage or value should occur. Past and on-going alterations of these communities has resulted in a 96 percent reduction of historical wetlands (pre-European settlement) throughout California. For this reason, relatively small fills or alteration of wetlands and streams may be considered to be cumulatively significant.

As described in Section IV.I., Hydrology and Water Quality, the City of San Pablo has a Storm Water Management Plan that is part of the Contra Costa Cities/County/District Stormwater



Pollution Control Program. The City of San Pablo has selected six existing and twelve new Best Management Practices (BMPs) for incorporation into its Storm Water Management Plan. The Storm Water Management Plan and NPDES permit requirements include measures to clean up existing contaminated water resources, identify and remove or mitigate existing sources of pollution, and develop ways of preventing further pollution (such as specific water treatment policies for industries and retention basins for surface runoff suspected of carrying roadway pollutants). Implementation of the Plan and consistency with the NPDES permit requirements would help to mitigate biological resource impacts related to degradation of water quality.

#### **Impact Biology-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions from the Environmental Resources Management Element of the proposed *General Plan* Update are related to wetlands, streams and riparian corridors:

##### **City -Wide Open Space - Policy ER 2.1: Natural Areas**

**Creeks - Policy ER 1.2: Creeks Designation**

**Creeks - Policy ER 1.3: Creek Maintenance, Management, and Improvements**

**Creeks - Policy ER 1.4: Protection of Creeks Natural Character**

**Creeks - Policy ER 1.5: Historic Recognition**

**Creeks - Policy ER 1.6: Multi-Use Creek Corridor Prioritization**

**Creeks - Policy ER 1.7: Groundwater Recharge**

**Groundwater - Policy ER 1.18: Regional Cooperation**

**Groundwater - Policy ER 1.19: Local Project Review**

**Vegetation and Wildlife- Policy ER 1.20: Biotic Resource Consideration**

**Vegetation and Wildlife- Policy ER 1.21: Riparian Habitat Consideration**

**Vegetation and Wildlife- Policy ER 1.23: Creek Habitat Enhancement**

**Vegetation and Wildlife - Policy ER 1.25: Open Space as Habitat**

**Overall Open Space - Action ER 1.A:Community Level Environmental Resource Information/Education**

**Overall Open Space - Action ER 2.D: Open Space Acquisition and Expansion Program (OSAEP)**

**Overall Open Space - Action ER 2.E: Open Space Zoning Designation**

**Creeks - Action ER 1.B: Creek Improvement Partnerships**

**Creeks - Action ER 1.C: Create a Creek Linkage and Improvement Program (CLIP)**

**Creeks - Action ER 1.D: Land Use and Physical Form**

**Creeks - Action ER 1.E: Protection of Natural Features**

**Groundwater - Action ER 1.J: Maintain Natural Waterways**

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**Groundwater - Action ER 1.K: Groundwater Pollution**  
**Groundwater - Action ER 1.L: Groundwater Mapping**  
**Groundwater - Action ER 1.M: Construction Standards**  
**Groundwater - Action ER 1.N: NPDES Participation**  
**Groundwater - Action ER 1.O: New Construction**

**Vegetation - Action ER 1.N: NPDES Participation**  
**Vegetation - Action ER 1.P: Revegetation Ordinance**  
**Vegetation - Action ER 1.Q: Tree Preservation Ordinance**  
**Vegetation - Action ER 1.R: Utilization of the CEQA Process**  
**Vegetation - Action ER 1.S: Creek Design Criteria**  
**Vegetation - Action ER 1.T: Native Plant Materials**

The following policies and actions from the Circulation, Public Facilities and Services Element of the proposed *General Plan* Update are related to wetlands, streams and riparian corridors:

**Policy CF 3.1: Water, Wastewater and Storm Drainage**

**Action CF 3.C: Storm Drainage Upgrade Program**  
**Action CF 4.H: Davis Park Master Plan**

The Public Safety and Related Services Element also lists the following Action statements:

**Action PS 1.J: Regulatory - Flooding**

**Impact Biology-1: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Biology-1: Additional Mitigation Measures Identified in this EIR**

**Biology-1a:** The City shall condition approval of individual development proposals in areas known to the City as having potential riparian or wetland resources or effects on such resources and incorporate the following mitigation program:

- Prior to construction in areas of riparian corridors or wetlands, the City shall support CDFG and Corps permitting processes. A Streambed Alteration Agreement from CDFG, Section 404 Corps permit, and/or a water quality certification from the Regional Water Quality Control Board (as applicable) shall be obtained by the project applicant prior to any development within any creek, wetland or associated riparian zone, or discharge of fill into any creek or wetland.

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- Design of building footprints along any riparian corridors shall be outside the CDFG- and/or Corps-designated buffer zone (the buffer zones are determined by the agencies on a case-by-case basis). Sensitive riparian habitats shall be marked by a qualified biologist to deter any destruction by equipment during construction.
- Development along any riparian corridor shall incorporate measures to avoid impacts during construction, such as:
  - i) Construction of any access bridge shall be limited to the bridge footprint area only.
  - ii) Parking of large equipment shall be on the upland grassland area or on the paved street. Construction workers' cars shall have designated parking areas.
  - iii) Basins for oil leaks from the equipment shall be installed if equipment is parked on-site over night.
  - iv) Additional measures required by the City's Storm Water Management Plan.
- The City shall require project proponents to design facilities to prevent degradation of riparian and wetland communities from urban pollutants in storm runoff.

**Biology-1b:** The City shall condition approval of individual development proposals on the following mitigation measure:

- As part of Groundwater - Action ER 1.M-Construction Standards, and in conjunction with the City's Storm Water Management Plan, develop a set of best management practices (BMPs) for developers to follow. Implementation of best management practices by the developers would further help to mitigate this impact. Such practices may include, but are not limited to:
  - use of stormwater retention or detention structures;
  - the use of oil and water separators; and
  - the use of sediment traps.

(Particles of sediment adsorb many of the heavy metal pollutants from automobile exhaust, as well as trapping oil and grease within their pores. Through use of water separators, and sediment traps in conjunction with settling basins, many of the pollutants could be removed.)

**Impact Biology-1: Significance After Mitigation**

Implementation of the above mitigation measures would protect wetlands, streams, and riparian corridors by implementation of setbacks, design criteria, construction standards, community education, acquisition, improvements and linkages, revegetation and landscaping requirements,



and conformance with local, regional, State, and Federal wetlands and water quality standards. Implementation of these measures would reduce the identified impact to a less-than-significant level.

**Impact Biology-2: Development consistent with the updated General Plan could directly or indirectly affect special status species and/or their habitat. This would be a significant project-specific and regionally cumulative impact.**

Open, undeveloped parcels within the City are limited in size and are concentrated along the creeks and in the hillside area east of I-80. The updated General Plan would enhance and protect Creek functions (through setback distances), but would result in portions of undeveloped hillside being designated as low-density residential. The undeveloped uplands (e.g., grasslands, woodlands, chaparral) may provide suitable habitat for burrowing owl, American badger, Cooper's hawk, Monarch butterfly, San Francisco owl's clover, and Hospital Canyon larkspur. Creeks and riparian corridors provide habitat for helminthoglypta, southwestern pond turtle, California red-legged frog, foothill yellow-legged frog, and western spadefoot toad. Any building within the City could provide habitat for Pacific western big-eared bat and/or greater western mastiff bat, and destruction of buildings could result in direct effects to these species.

Species that could be affected downstream (not within the City limits) from development consistent with the updated General Plan include salt marsh harvest mouse, Suisun song sparrow, California clapper rail, California black rail, San Pablo song sparrow, salt marsh yellowthroat, and California suda.

#### **Impact Biology-2: Mitigation Measures Proposed as Part of the Project**

The following policies and actions from the Environmental Resources Management Element of the proposed *General Plan* Update are related to special status species:

**Vegetation and Wildlife- Policies ER 1.20, ER 1.21, and ER 1.25 discussed above.**

**Vegetation and Wildlife- Policy ER 1.22: Hillside Habitat Values**

**Vegetation and Wildlife- Policy ER 1.24: Wildlife Re-Introduction**

**Vegetation - Actions ER 1.R, 1.S, and 1.T listed above.**

**Hillside - Action ER 1.F: Hillside Design Guidelines**



**Impact Biology-2: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Biology-2: Additional Mitigation Measures Identified in this EIR**

**Biology-2a:** The City shall condition approval of individual development proposals in areas known to the City as having potential to support special status species and incorporate the following mitigation program:

- For projects not exempt from the California Environmental Quality Act, the City shall continue to use environmental review under CEQA to review development and for impacts on sensitive species and their habitat.
- Areas that could provide habitat for sensitive species shall be surveyed by qualified biologists provided by project sponsors prior to project approval. Sensitive areas within the City includes streams and wetlands, open grasslands, woodlands, or chaparral, and buildings which are abandoned or slated for destruction. If any species is present, coordination with the CDFG and/or USFWS (as applicable) will be required for mitigation of impacts and redesigning of the project footprint to avoid any sensitive species or sensitive habitat. If avoidance is not feasible, coordination with the CDFG and/or USFWS will be required for relocation of these species and for determining replacement of habitat.

**Impact Biology-2: Significance After Mitigation**

Implementation of the above mitigation measures would protect special status species and their habitat by implementation of creek setbacks, design criteria, habitat linkages, surveys, revegetation and landscaping requirements, CEQA review, and conformance with state and federal policies that protect special status species. Implementation of these measures would reduce the identified impact to a less-than-significant level.

**Impact Biology-3: Development consistent with the updated General Plan could result in the direct removal of significant specimens of native tree species, with potential indirect effects on wildlife. This would be a significant project-specific and regionally cumulative impact.**

Removal of mature or unique specimens of native trees within the City would result in direct impacts to these species, including reducing the potential for regeneration. Removal also would reduce available nesting, resting, and feeding areas for local wildlife.

**Impact Biology-3: Mitigation Measures Proposed as Part of the Project**

No policies contained in the Environmental Resources Management Element of the updated General Plan are directly related to significant trees within the City. The Environmental Resources Management Element lists the following Action statements that mitigate the identified impact.

**Vegetation - Actions ER 1.Q and 1.R listed above.**

**Impact Biology-3: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Biology-3: Additional Mitigation Measures Identified in this EIR**

None required.

**Impact Biology-3: Significance After Mitigation**

Implementation of the above measures would mitigate the impact to a less-than-significant level, because they would identify and either protect or require mitigation for the loss of significant native trees within the City.

**Impact Biology-4: Introduction of invasive non-native species used in landscaping would be detrimental to native habitats within the City. This would be a significant project-specific and regionally cumulative impact.**

French broom (*Cytisus monspessulanus*) and Spanish broom (*Cytisus scoparius*) are invasive, non-native species that are often used in landscaping. These species produce a copious amount of seeds that allow them to "escape" landscaped areas into adjacent habitats. Once established, these species "out-compete" native vegetation and will form single species stands, thus decreasing natural diversity of native plant species and wildlife habitat. In particular, colonization by these species has eliminated habitats necessary for endangered species. An example of this in the East Bay region includes areas of grassland that support Santa Cruz tarweed, currently threatened by invading French broom. The non-native species noted are a fire hazard and are extremely difficult to remove.

**Impact Biology-4: Mitigation Measures Proposed as Part of the Project**

No policies contained in the Environmental Resources Management Element of the updated General Plan are directly related to non-native vegetation within the City. The Environmental Resources Management Element lists the following Action statements that mitigate the identified impact:

**Vegetation - Actions ER 1.P, 1.S, and 1.T listed above.**

**Impact Biology-4: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Biology-4: Additional Mitigation Measures Identified in this EIR**

None required.

**Impact Biology-4: Significance After Mitigation**

Implementation of the above measures would mitigate the impact to a less-than-significant level, because they would restrict or significantly reduce the likelihood of invasive non-native species from becoming established in areas of natural communities and wildlife habitats.

**Impact Biology-5: Development consistent with the updated General Plan would result in the loss of open space and would have a cumulative adverse impact on wildlife. This would be a significant regionally cumulative impact.**

Grasslands, woodlands, chaparral, and riparian habitats around the San Pablo and San Francisco Bays have been eliminated by development, thus pushing wildlife into smaller and smaller parcels of habitat. Few species utilizing these habitats are able to adapt to other habitats. Cumulative development in the region has resulted in the loss of habitat for special status species; to the extent that development in San Pablo would contribute to this cumulative loss, the impact would be significant.

**Impact Biology-5: Mitigation Measures Proposed as Part of the Project**

The following policies and actions from the Environmental Resources Management Element of the proposed *General Plan* Update are related to wildlife:

**City -Wide Open Space - Policy ER 2.1 discussed above.**

**Creeks - Policies ER 1.4, 1.5, 1.6, and 1.7 discussed above.**

**Vegetation and Wildlife- Policies ER 1.20 through 1.25 discussed above.**

**Overall Open Space - Actions ER 2.D and 2.E listed above.**

**Creeks - Actions ER 1.C, 1.D and 1.E listed above.**

**Hillside - Action ER 1.F listed above.**

**Groundwater - Actions ER 1.J and 1.M listed above.**

**Vegetation - Actions ER 1.R, 1.S and 1.T listed above.**

**Impact Biology-5: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Biology-5: Additional Mitigation Measures Identified in this EIR**

**Biology-5a:** The City should implement Mitigation Measures Biology-1a and Biology-2a to help reduce the regionally cumulative impact to wildlife.

**Impact Biology-5: Significance After Mitigation**

Implementation of the above measures would mitigate the project-specific contribution to the regional cumulative impact, and would, therefore, mitigate the impact to a less-than-significant level.



IV. Environmental Setting, Impacts and Mitigation Measures  
D. Vegetation and Wildlife

REFERENCES - Vegetation and Wildlife

California Native Plant Society (CNPS), California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, 1994.

California Natural Diversity Data Base (CNDDB), Mare Island and Richmond 7.5 minute quadrangles, 1995.

Eller, John, City of San Pablo, et al., memorandum, August 30, 1995.

Ho, Adele, City of San Pablo, written communication, April 25, 1996.

## **E. VISUAL QUALITY**

### **SETTING**

#### **Existing Visual Character**

The existing visual character of San Pablo is determined by the attributes (e.g., color, form, texture) of specific site features and by the patterns which the features have assumed as a result of natural and/or cultural processes. Assessment of the visual attributes and patterns of the City's features is organized according to the following general descriptive categories: site location, landform, and spatial organization; surface waters; vegetation; cultural (built) features; and views. Viewpoints of photographs included in this report are shown in Figure IV.E.1.

#### **Site Location, Landform, and Spatial Organization**

The City of San Pablo is characterized by two major landscape elements: the relatively flat, low-lying expanses of Bay Plain, east of the Bay, typically found throughout most of the City, with elevations ranging from 30 to 60 feet, mean sea level datum (msl); and the steep to moderate sloping hillside areas in two locations: (1) the eastern and southeastern portions of the City on the northwestern flank of San Pablo Ridge, generally above elevation 100 feet msl, and (2) the northern portion of the City, generally above elevation 60 feet msl. In general terms, the waters of San Francisco Bay form the western visual edge of the area, and the developed hillsides near Alvarado Park form the eastern visual edge. In general, the City does not exhibit distinctive overall form and does not have well-defined visual boundaries.

Regional topographic features are visually prominent throughout the City, serving as focal points in long-range views and as visual edge and transition elements in both long-range and medium-range views. The Marin hills across San Pablo Bay are the principal visual backdrop to the west. To the east, the Berkeley Hills, San Pablo Ridge, Pinole Ridge and the Sbrante Ridge define the edge of the visual corridor in the Bay Plain. Brooks Island forms a prominent visual landmark to the south, with the City of San Francisco in the background. Long-range views are somewhat impaired by the fog that occurs frequently during the summer months.



SOURCE: Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

**Figure IV.E.1**  
Viewpoint Map

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

### Surface Waters

Among the most visually prominent open spaces in the vicinity of San Pablo are the waters of the San Francisco and San Pablo Bays west and south of the City that are visible from higher elevations within the planning area.

Four watercourses, identified (north to south) as an unnamed drainage at the northern end of the City, Rheem Creek, San Pablo Creek and Wildcat Creek, trend in a roughly westerly direction across the city. The latter three watercourses have open channels within the City, although surface water is generally visible only from the banks. The San Pablo Creek and Wildcat Creek riparian corridors are visible from some points on the hillsides and low-lying areas. Wildcat Creek is an important visual feature in Davis Park.

### Vegetation

Overall, the City is highly urbanized (there are few undeveloped areas) and contains only remnants of native vegetative communities. The waterways that cross the City from east to west constitute the City's major biological resources. Typical species along Wildcat Creek include willow and coast live oak, intermixed with boxelder, elderberry, California bay, coyote brush, blackberry, watercress, and poison oak. The riparian (area along the banks) strip along the creek is generally between 75 and 100 feet wide within the City, except on the west end of town, between Rumrill Boulevard and the AT & SF railroad, where the creek supports a riparian band of oaks measuring between 150 and 200 feet in width. Small strips of non-native grassland occur to either side of this wooded area. Davis Park is along the southern edge of Wildcat Creek in the vicinity of 19th Street.

Hillside properties east of I-80 support mature stands of coast live oak with an understory of native and naturalized grass, shrub, and wildflower species. A vacant triangular parcel located adjacent to the cemetery, at Church Lane and San Pablo Creek, supports non-native grassland.

### Cultural (Built) Features

Although natural features provide the dominant visual forms around the City, some notable man-made landmarks are located within the City, including Casino San Pablo on San Pablo Avenue at San Pablo Dam Road, and the historic City Hall, on the corner of San Pablo Avenue and Church Lane (see Figure IV.E.2). Historic residences are located throughout the City.





City Hall



Casino San Pablo

SOURCE: Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

## Figure IV.E.2

### Existing Man-Made Visual Features

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

### Views

Various viewpoints in elevated areas within the Bayview and Hillside neighborhoods, and along Giant Road at the western edge of the City, afford long-range, scenic views. Westerly views from these viewpoints include the San Francisco and San Pablo Bays, the Marin hills and Mount Tamalpais (see Figure IV.E.3). From the Bayview District, long-range southerly views include the San Pablo hills, the San Francisco skyline and the Bay Bridge (see Figure IV.E.3). On cloudy or foggy days, the opposite shores are not visible and bay views are ephemeral, lacking any horizon line. Long-range views to the north and east from these viewpoints are not available due to intervening topography.

Viewpoints in low-lying areas of the City afford short- and medium-range views that are dominated by urban development, as shown in Figure IV.E.4. Strip commercial development is a prominent visual characteristic along major thoroughfares, particularly San Pablo Avenue, Rumrill Boulevard, and 23rd Street. Commercial development is also the dominant feature in views from I-80; however, undeveloped areas of the hillside to the east of the freeway are partially visible. Short- and medium-range views to the north include urban development within San Pablo and Richmond (see Figure IV.E.4). To the east, views of residential development in the East Bay hills are available in short- and medium-range views. Undeveloped hillside areas within the City on the east side of I-80 are partially visible from vantage points within the Bay Plain (see Figure IV.E.5). Pedestrian paths in Davis Park provide short-range views of Wildcat Creek (see Figure IV.E.5).

### Plans and Policies

#### *San Pablo General Plan*

The Land Use, Open Space and Conservation, and Beautification Elements in the current *General Plan* contain policies related to visual resources. The Land Use Element recognizes San Pablo and Wildcat Creeks as important natural features that warrant protection. The Land Use Element also states that future development or redevelopment of creekside properties should be designed so as to be sensitive to and complement the creeks' open space assets. In addition, the Land Use Element calls for the protection of natural vegetation along, and scenic views from, the ridgeline on Hillcrest Road. An important objective of this element is to "upgrade marginal strip commercial uses," particularly along Rumrill Boulevard and 23rd Street, where heavy





Viewpoint A: View of San Francisco and San Pablo Bays from Hillcrest Drive Looking West



Viewpoint B: View of Bay Bridge and San Francisco Skyline from Mesa Buena Avenue Looking South

SOURCE: Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

### Figure IV.E.3 Viewpoints A and B

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates



Viewpoint C: View of Strip Commercial and Residential Development Along 23rd Street Looking South



Viewpoint D: View of Commercial Development on Rumrill Boulevard Looking Southeast

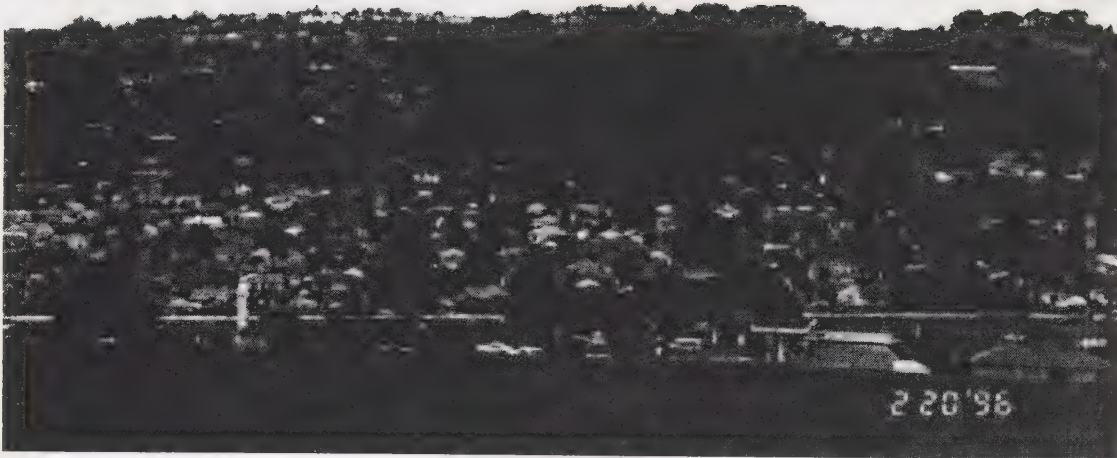
SOURCE: Environmental Science Associates

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City of San Pablo  
 Pacific Municipal Consultants  
 RaceStudio  
 Williams-Kuebelbeck & Associates, Inc.  
 Environmental Science Associates

## Figure IV.E.4 Viewpoints C and D





Viewpoint E: View of San Pablo from Hillcrest Drive Looking Northwest



Viewpoint F: View of Wildcat Creek in Davis Park Looking West

SOURCE: Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

## Figure IV.E.5 Viewpoints E and F

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### E. Visual Quality

commercial uses are concentrated. Screening, landscaping, and undergrounding of utilities are identified as necessary improvements in these areas.

The Open Space and Conservation Element is intended to protect and maintain the natural environment within the City. Policies contained in this element call for the preservation of open space areas, and the protection of certain landforms, including ridges and ridgelines, creeks, vista points and major visual features. The Open Space Plan identifies natural green open space, park and school recreation open space, and major ridgelines within the City.

The current *General Plan* contains a Scenic Highway Element; however, none of the highways located in San Pablo are eligible for official state scenic highway designation. The Scenic Highways Element, which does not contain any policies, states that the City shall continue to improve all of its transportation corridors in accordance with the Beautification Element.

The Beautification Element recommends that the City provide improvements such as landscaping and special architectural treatment along major thoroughfares. According to this Element, extensive landscaping and architectural controls in the commercial areas are the keys to beautifying the City and binding its varied areas together. The Beautification Plan identifies San Pablo Avenue, Giant Road, Rumrill Boulevard, 23rd Street, El Portal Drive, San Pablo Dam Road, and the portion of I-80 that runs through San Pablo as roads that should receive these improvements. The Beautification Plan also identifies important entrances, or gateways, to the City that should receive special treatment. These entrances are located at Rheem Avenue and Rumrill Boulevard, Rheem Avenue and Vale Road, San Pablo Avenue at the northern City boundary, at Giant Road, and at Rumrill Boulevard and Market Avenue.

The Beautification Element contains specific goals and policies to improve the City's appearance and image. The goals include improving major focal points and public facilities to improve the City's image and encouraging architectural treatment of buildings and grounds in the tradition of San Pablo's heritage.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

According to the CEQA *Guidelines*, significant effects on the environment include substantial or potentially substantial adverse changes in objects having aesthetic significance, and substantial or potentially substantial, demonstrable negative effects (CEQA *Guidelines*, Section 15382).

Appendix I of the CEQA *Guidelines* contains six criteria for identifying aesthetic impacts: obstruction of a scenic vista or view open to the public; creation of an aesthetically offensive site open to public view; degradation of an object having historic or aesthetic significance; division or disruption of the physical arrangement of an established community; introduction of new sources of light and glare; and conflict with adopted environmental plans and goals of the community where a project would be located.

- View Obstruction: Views from or of a project site may be physically blocked, reduced in area, or reconfigured by elements of a proposed project.
- View Impairment: Impairment of the quality of important public views can result from the introduction into an existing view of a visual feature that is "aesthetically offensive" in itself, or from the degradation of an existing visual feature that has aesthetic significance, or from the introduction into an existing view of objects or patterns that exhibit a high degree of visual contrast with the existing objects and patterns on the site.
- Degradation of Aesthetically Significant Objects: Degradation of objects having historic or aesthetic significance may result when such an object is removed or physically altered, or when the object's immediate contextual surroundings are changed so as to visibly detract from the aesthetically positive elements that contribute to the object's aesthetic significance.
- Disruption or Division of Established Community: Division or disruption of the physical arrangement of an established community may result from development that is substantially larger in scale than existing uses, or that introduces novel forms, materials, textures or colors into existing areas in which building types, land uses and architectural styles are homogenous, or that interposes barriers between spatially related features.
- Introduction of New Sources of Light and Glare: Intrusive new sources of light and glare may include commercial signs, nighttime security and task lighting, expanses of surface parking, and reflective building materials and finishes.
- Conflict with Adopted Environmental Plans or Goals: A project may result in changes in visual character and/or existing views that conflict with the adopted environmental plans or goals of the community in which the project is proposed. The existing *General Plan's* relationship to visual quality is discussed under Plans and Policies, above.



### Impacts

**Impact Visual-1: Implementation of the proposed land use designations could result in development that impairs the existing scenic quality of the City. This would be a significant impact.**

Development consistent with the updated General Plan could degrade an existing visual feature or an existing view of objects or patterns in the City by exhibiting a relatively high degree of visual contrast with the existing objects or patterns. This visual impact could affect individual objects having aesthetic significance, such as City Hall, historic residences, or single specimen trees, or areas visually distinguished by their unique visual character or established patterns, such as open space areas or creek corridors. Specific industrial, commercial or residential developments could degrade existing landscape features by removing (through grading or clearing of vegetation) the features or by exhibiting a high degree of visual contrast with those features.

Undeveloped areas on the hillside east of I-80 would be sensitive to degradation by development under the updated General Plan. The appearance of development on or adjacent to those areas would appear as encroachment or urbanization on a natural setting. Large-scale development in this area would create visual contrast with the existing patterns.

### **Impact Visual-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions are contained in the proposed Land Use, Economic Development, and Community Design Element:

**Policy LU 1.3: Quality of Development**

**Policy LU 1.4: Street Design**

**Action LU 1.B: Design Guidelines and Standards**

**Action LU 3.G: RDA - Urban Open Space**

**Action LU 3.H: Facade Improvement Program**

**Action LU 4.F: Residential Design Guidelines**

**Policy LU 5.11: Commercial Design Guidelines**

**Policy LU 6.5: Redevelopment and City Culture**

**Policy LU 6.7: City Image and Identity**

**Action LU 1.A: Ordinance Revisions**



**Action LU 6.B: Commercial/Industrial Design Guidelines**

The following policies and actions are contained in the proposed Environmental Resources Management Element:

**Policy ER 2.1: Natural Areas**

**Action ER 1.A: Overall Open Space - Community Level Environmental Resource Information/Education**

**Policy ER 1.3: Creek Maintenance, Management and Improvements**

**Action ER 1.C: Create a Creek Linkage and Improvement Program (CLIP)**

**Policy ER 1.9: Hillside Character Protection**

**Policy ER 2.6: Integration of the Natural and Built Environment**

**Impact Visual-1: Mitigation Measures Identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Visual-1: Mitigation Measures Identified in this EIR**

The City shall condition approval of individual development proposals on implementation of the following mitigation measures:

**Visual-1a:** Development proposals should be reviewed in terms of natural objects in the vicinity that have aesthetic significance. This may include open space or vegetation that serves as a view corridor or has important visual attributes. Development proposals should be sited to ensure that these features are retained or replaced to the extent feasible, resulting in minimal view impairment.

**Visual-1b:** Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, should be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors. If specific trees are to be removed, replace with trees, preferably native species, that would provide suitable screening while retaining important view corridors.

**Impact Visual-1: Significance After Mitigation**

Implementation of the above measures would mitigate the impact to a less-than-significant level, because new development would comply with the City's design guidelines, which are intended to maintain and improve the existing scenic quality of San Pablo. In addition, the updated General Plan policies would encourage the preservation of creeks, hillsides, and open space areas, which are important visual features.

**Impact Visual-2: Adoption of the proposed land use designations could result in development that could result in obstruction of scenic vistas and views open to the public. This would be a significant impact.**

Development consistent with the proposed Land Use, Economic Development, and Community Design Element has the potential to obstruct views currently available to the public, including views of and from the hillsides at the eastern edge of the City, and long-range views of the San Francisco and San Pablo Bays, the San Francisco skyline, and the Marin hills. These scenic views could be fully or partially blocked if new construction were located near or adjacent to public viewpoints.

Height limits for proposed land uses would be addressed in an amendment to the San Pablo Zoning Ordinance. The allowed densities, or FARs, for the proposed land use designations indicate that most new development would be no taller than one to two stories in height; however, since the height limits are not known, maximum building heights cannot be conclusively determined. Therefore, scenic views could be fully or partially obstructed by new development.

**Impact Visual-2: Mitigation Measure Proposed as Part of the Updated General Plan**

The following policy and action are contained in the proposed Land Use, Economic Development, and Community Design Element:

**Policy LU 1.4 and Action LU 4.F listed above.**

The following goals, policies, and actions are contained in the Environmental Resources Management Element:

**Policies ER 2.1 and ER 1.9 listed above.**

**Policy ER 1.8: Hillsides as a Resource**

**Action ER 1.G: Viewshed Preservation and Enhancement**

**Policy ER 2.2: Visual Open Spaces**

**Action ER 2.A: Scenic Corridor Inventory**

**Impact Visual-2: Mitigation Measures Identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Visual-2: Mitigation Measure Identified in this EIR**

The City shall condition approval of individual development proposals upon implementation of the following mitigation measure:

**Visual-2a:** Development should preserve important view corridors, where feasible, by identifying and preserving the attributes of the view corridor that characterize its significance (e.g., framing elements, surface water reflections, presence or absence of impinging details) as seen from roadways, pedestrian paths or other public vantage points to avoid view obstruction. Buildings should be sited so as to minimize view obstruction from sensitive viewpoints.

**Impact Visual-2: Significance After Mitigation**

Implementation of the above measures would mitigate the impact to a less-than-significant level because scenic vistas, viewsheds and view corridors would be identified as important visual resources that should be protected. New development would be designed to minimize view obstruction from these viewpoints and corridors.

**Impact Visual-3: Development in certain areas could introduce additional light and glare. This would be considered a significant impact.**

By introducing new industrial, commercial, and multi-family structures and automobiles into San Pablo, implementation of the updated General Plan would create new sources of light and

glare. Some open spaces that are unlit at night would be developed and create opportunities for night lighting. Commercial, residential and multi-family structures are often lit, or partially lit at night, and industrial sites and parking lots often maintain all-night security illumination.

Because the development of new structures in San Pablo could be a substantial increase over existing uses in some locations, the potential increase for night lighting could be noticeable from surrounding elevated viewpoints. Where commercial or industrial uses would be adjacent to or mixed with residential uses (e.g., within a Mixed Use District), night lighting from new uses or buildings could create some lighting disturbance for nearby residences.

Daytime glare would also increase above existing levels by the introduction of new buildings, automobiles and other vehicles. The increase in glare from reflective automobile surfaces could be noticeably higher than existing levels. Commercial buildings with reflective windows, glass fountains or reflective signage could create glare from viewpoints in various parts of the City.

#### **Impact Visual-3: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions are contained in the proposed Land Use, Economic Development, and Community Design Element:

**Policies LU 1.4 and 6.7 and Actions LU 3.G and 4.F listed above.**

#### **Impact Visual-3: Mitigation Measures Identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

#### **Impact Visual-3: Mitigation Measures Identified in this EIR**

The City shall condition approval of individual development projects upon implementation of the following mitigation measures:

**Visual -3a:** The City of San Pablo should evaluate the light and glare potential of new development on a parcel specific basis and apply the following measures:

- Screening of parking areas by using vegetation or trees. This would reduce the amount of glare generated from painted and chrome automobile surfaces and prevent expanses of stationary and moving automobiles.



IV. Environmental Setting, Impacts and Mitigation Measures  
E. Visual Quality

- Hooded lights for nighttime illumination should be used for parking areas, shipping and receiving docks and industrial development. Hooded lights direct the light beam towards the ground, which if a dark pavement, will not reflect light and cause spillage into neighboring uses.
- Regular windows should be used instead of the glass walls or massive reflective windows often used for research and development, and office park developments.

**Impact Visual-3: Significance After Mitigation**

Implementation of the above measures regarding light and glare would reduce the impact to a less-than-significant level because the City could require that new developments include measures to reduce light and glare in their lighting plans, such as hooded lights, landscaping, and non-reflective building materials.

## **F. PUBLIC SERVICES AND UTILITIES**

### **SETTING**

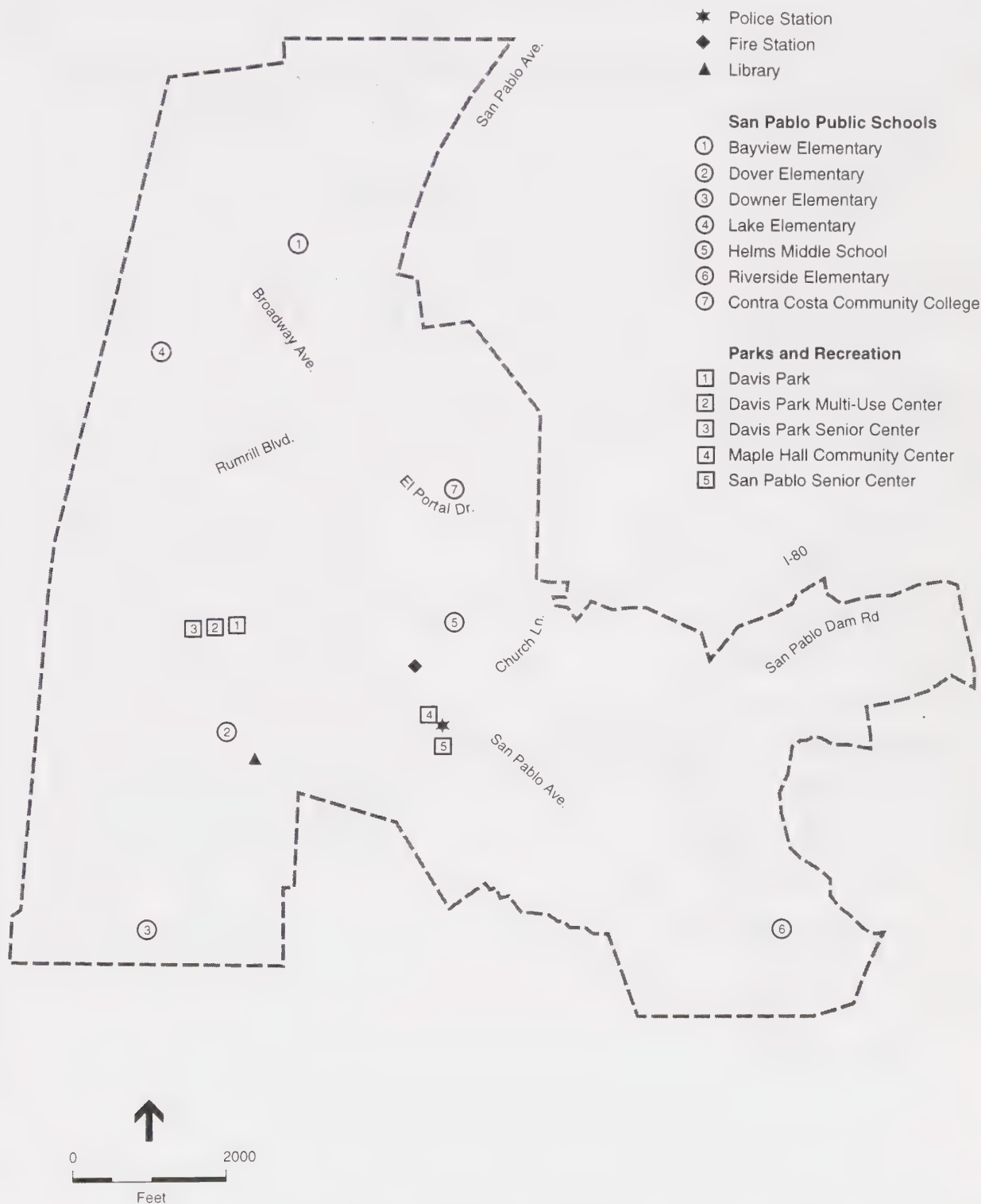
#### **Parks, Open Space and Recreation Facilities**

##### **Existing Park Facilities**

The City of San Pablo currently maintains four community centers and one park, shown in Figure IV.F.1. Existing facilities' names and locations and brief facility descriptions are listed below. According to City staff, the eight-acre Davis Park is in need of repair and renovations. The park turf needs renovation and regular maintenance, and the practice field needs new fencing, a back stop, and an infield. The adjacent creek is not fenced from park uses and an upgraded bridge is needed. The bathrooms need modification and upgrades, and lighting fixtures should be upgraded (Duncan, 1995).

- Maple Hall Community Center  
One Alvarado Square
  - Four Meeting Rooms
  - One Large Banquet Room
  - Commercial Kitchen and Storage Area
- San Pablo Senior Adult Center  
1943 Church Lane
  - One Meeting Room
  - One Large Banquet Room
  - Commercial Kitchen and Storage Area
  - Pool Room
- Davis Park Senior Center  
1651 Folsom Avenue
  - One Large Meeting Room
  - One Small Meeting Room
  - Small Utility Kitchen
- Davis Park Multi-Use Center  
1651 Folsom Avenue
  - One Large Meeting Room
  - Small Utility Kitchen
- Davis Park
  - Eight Acres
  - One Regulation Baseball Field
  - One Practice Baseball Field
  - One Large Soccer Field (In Baseball Field's Outfield)
- Hillcrest Road Property
  - Passive Open Space Area

Additional recreational facilities are available to residents at public school facilities. Schools provide a variety of recreational opportunities, as shown on p. IV.F.3 (Duncan, 1995). However, elementary and middle school facilities that are used as recreational facilities are in poor condition and are in need of repairs and renovations in excess of two million dollars (WCCUSD,



SOURCE: Environmental Science Associates, based in part on information from city staff and the West Contra Costa County Unified School District

San Pablo General Plan Consulting Services / 950160 ■

## Figure IV.F.1 Public Facilities

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

IV. Environmental Setting, Impacts and Mitigation Measures  
F. Public Services and Utilities

1995). College facilities are available to the general public on a limited basis, according to school schedules and events.

- Riverside Elementary
  - Soccer Field
  - Softball Diamond
- Dover Elementary
  - Small Soccer Field
  - Softball Diamond
- Bay View Elementary
  - Soccer Field
  - Softball Diamond
- Contra Costa Community College
  - Soccer Field
  - Olympic Size Swimming Pool
  - Track
  - Gymnasium
- Lake Elementary
  - Soccer Field
  - Softball Diamond
- Downer Elementary
  - Gymnasium
- Helms Middle School
  - Two Soccer Fields
  - Small Softball Diamond
  - Gymnasium

The East Bay Regional Park District maintains two regional parks near the City limits. The Wildcat Canyon Park is adjacent to the City's eastern border, and Point Pinole is approximately a mile to the northwest. Both of these parks have generally passive recreational opportunities, including hiking trails and picnic areas.

A trail along Wildcat Creek has been part of a park planning effort by the East Bay Regional Park District for over ten years. The District is currently completing Phase I of the trail that extends from the marsh tidelands to the westerly set of train trestles in North Richmond. Phase I work is being completed in coordination with the Flood Control District under a Bay Conservation and Development Commission permit.

The Park District is interested in working with the City of San Pablo to achieve Phase II and III goals that include trail alignment and easement acquisition. Phase II of the trail includes the extension of the trail from the western City limits to Davis Park. The Park District has contacted the City to gain easement rights on a City access route between Rumrill Avenue and the park, but no easement agreement has been finalized to date. Phase III is in the preliminary planning stages and includes extending the trail through the City upstream to Alvarado Park outside the City.



#### IV. Environmental Setting, Impacts and Mitigation Measures

##### F. Public Services and Utilities

The Park District has also conducted a study on trail feasibility that explores the land use, environmental, and economic benefits of a greenway system (Stone, 1995).<sup>1</sup>

In addition to park facilities, two museums are open to the public and provide cultural resource information. Both museums are located at One Alvarado Square. The first includes the Blume House and a barn. The Blume House is an early 1900s farmhouse that was transported to One Alvarado Square for restoration. The home and barn are filled with historical artifacts from the early 1900s. The second museum is the Alvarado Adobe. The adobe is a California Historic Landmark (plaque No. 512) that marks the location and the 1978 reconstruction of this Mexican-era adobe. Former Mexican Governor of California, Juan Bautista Alvarado, lived in the Adobe from 1849 until his death in 1892.

#### Regulatory and Policy Context

The Public Facilities and Growth Management Elements in the current *General Plan* currently have policies related to park standards. The Growth Management Element indicates a parks standard of 2 acres per 1,000 residents and recreational facilities standard of one square foot per capita. These standards prescribe a need for approximately 50 acres of parks and 25,000 square feet of recreational facilities to serve the current population of about 25,000 residents<sup>2</sup>. The *General Plan* also recognizes National Recreation Association standards that suggest 1 acre of Neighborhood Park land per 1,000 residents, 2.5 acres of Community Park land per 1,000 residents, and 5 acres of City-wide Recreational Area per 1,000 residents. (Davis Park is the only community park in the City.) In 1989-90, a Contra Costa County Grand Jury recommended that Contra Costa cities acquire at least four acres of parks per 1,000 population, which is consistent with the County *General Plan*.

The current San Pablo *General Plan* also identifies future East Bay Regional Park District proposals for a linear park along portions of either San Pablo and/or Wildcat Creeks in an effort to connect the Wildcat Regional Park trails with potential future shoreline trails along the Bay.

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<sup>1</sup> De Stabler, Jordan, "A Greenway Proposal for Wildcat and San Pablo Creeks," U.C. Berkeley graduate thesis, December 1992.

<sup>2</sup> The population figure is for the City limits. Population figures used in some of the other sections in this EIR are based on the Sphere of Influence.

IV. Environmental Setting, Impacts and Mitigation Measures  
F. Public Services and Utilities

Planning for and management of recreation and parks facilities in San Pablo are currently a shared function of the Community Development Department's Public Works Division and Parks and Recreation Division.

City policies found in the Growth Management Element, Open Space and Conservation Element, and Public Services Element are provided below:

*Growth Management Element*

Goal G3.1: Achieve and maintain a level of service that meets or exceeds the City's adopted performance standards for public facilities which includes parks, fire and police facilities, sanitary facilities, water services and flood control and drainage.

Implementing Policy P3.1: Development Mitigation Program. The City will adopt and implement a development mitigation program to ensure that new growth is paying its share of the costs associated with the provision of facilities for fire, police, parks and recreation, sanitary facilities, water, and flood control and drainage.

Implementing Policy P3.4: Contributions to Improvements. All new development shall contribute to or participate in the improvement of the parks and recreation facilities, fire, police, sanitary facilities, water, and flood control and storm drainage systems in proportion to the demand generated by project occupants and users.

*Open Space and Conservation Element*

1. Preservation of Open Space Areas

The Element designates all existing parks as open space and recommends that all unique natural areas, important wildlife habitats, and areas suitable for nature study, particularly near schools, should be designated as open space. Unfortunately the San Pablo Community is urbanized to the extent it has no marshes, mudflats or agricultural areas.

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Public Facilities Element

2. Parks and Recreation

C. Goals and Policies

To provide the widest range of leisure activities possible within the urban setting of the City, encouraging active participation of residents in athletics, crafts, arts, culturally enriching events and light entertainment.

D. General Plan Proposals

1. A full scale community park to be made of Davis Park including appropriate playing fields, tennis courts, tot-lots, various recreation buildings and multi-purpose open areas.
2. Six neighborhood parks to be developed adjacent to Bayview, Dover, Broadway, Lake, Downer, and Riverside Schools.
3. A large hillside recreational area in the vicinity of Hillcrest Road.
4. A hiking trail developed along portions of San Pablo and Wildcat Creeks as the beginning to a linear creekside park system.
5. A community facility building in the proposed Civic Center complex.
6. Reconstruction of the Alvarado Adobe into an historic park and use of the facilities for cultural, crafts, and recreational activities.
7. Utilization of the cultural and recreational facilities of Contra Costa Junior College as fully as possible.

Emergency Response

Multi-Hazard Functional Plan

The City of San Pablo has a Multi-Hazard Functional Plan to address the City's planned response to "extraordinary emergency situations associated with natural disasters, technological incidents, and nuclear emergency operations" (City of San Pablo, 1988). The Plan divides emergency operations for the City of San Pablo into overall management and coordination; fire and rescue; law enforcement and traffic control; medical operations; public health operations; coroner operations; care and shelter operations; and movement operations. For each function, the Plan

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delineates responsibilities for local, County, and mutual aid providers, and includes action checklists for responses to specific emergency situations (earthquakes, hazardous materials incidents, flooding, dam failure, and nuclear emergencies). The Basic Plan component of the Multi-Hazard Functional Plan lists coordinating, primary, and secondary/support responsibilities for City, County, and private agencies with respect to each emergency response function (City of San Pablo, 1988).

The City's Multi-Hazard Functional Plan was prepared in 1988. State law requires that the Plan be updated every four years. Recent State legislation (codified in California Code of Regulations, Title 19) requires a Standardized Emergency Management System, with an Incident Command System format for all disaster response. In addition, there are new FEMA guidelines that require a "crosswalk" for Plan reviewers at the State and federal level. Local emergency response plans must be reorganized to comply with the specific format and style required by the current State law. The cities of Pinole, Hercules, and El Cerrito have contracted with the Contra Costa County Office of Emergency-Disaster Services to help update their emergency response plans; the City of Richmond is updating its own Multi-Hazard Functional Plan (Cimino, 1995).

#### Regulatory and Policy Context

The current San Pablo *General Plan* contains a Public Safety Element (Chapter V) that discusses disaster preparedness, and includes policies related to emergency response (these policies pre-date the City's Multi-Hazard Functional Plan). The policies include:

Policy 1: The City shall evaluate all new building plans for features that interfere with emergency access.

Policy 2: The City shall require dual access to new and existing buildings wherever possible.

Policy 3: The City shall require clearly visible street name signs and house numbers.

Policy 4: The City shall require adequate firefighter access clearance between buildings.

Policy 5: The City shall require multi-story buildings and public buildings to have hallway and elevator dimensions that are adequate to accommodate an ambulance gurney.

Policy 12. The City shall adopt an emergency plan and have it approved by the California Office of Emergency Services.



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Policy 13. The City shall test the emergency plan and its components on a regular basis and periodically review the plan.

Police Services

Existing Police Services

The San Pablo Police Department (SPPD) provides police services to all of the incorporated areas of San Pablo, and participates in a County-wide mutual assistance program (Krathwohl, 1995). For example, mutual assistance agreements exist between SPPD and cities in the vicinity, including the Sheriff's Department and the El Cerrito, Richmond, and Pinole police departments. As a matter of policy, the SPPD does not respond to calls outside of its jurisdiction unless specifically requested to do so by other agencies, or unless a crime is in progress or a criminal chase occurs across jurisdictional boundaries. The Department does not currently have the capability to undertake aerial policing activities on its own, although it can receive aerial surveillance assistance from the California Highway Patrol and the East Bay Regional Park District (Krathwohl, 1995).

The San Pablo Police Department operates out of a central station at Five Alvarado Square (shown in Figure IV.F.1) near the corner of San Pablo Avenue and Church Lane. The Department is divided into an investigations and a patrol division. The Police Department currently has 38 sworn officers and staff and civilian volunteers that number 9 full-time and 5 part-time. Equipment used by the Police Department includes 14 patrol cars and 10 other special duty vehicles. The average response time to a call for service is less than five minutes (Eller, 1996a).

The City is divided into three beats that are staffed 24 hours per day by a minimum of two officers. Given the City's current population of approximately 26,000 people, the current police-to-resident service ratio in San Pablo is approximately one police officer to every 684 residents (or 1.46 police officers per 1,000 residents). This ratio exceeds the City standard of 1.43 police officers per 1,000 residents (ESA, 1994). However, the police-to-resident ratio is only one factor in determining staffing needs, since police staffing is a relatively complex situation that is not dependent on population levels only. The Department has noted current trends in urban areas in which the officer per resident ratio standards have increased to one police officer per 500 residents. The Department has recently consolidated communications/dispatching services with the City of Richmond, El Cerrito and Kensington (Eller, 1996a).

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An analysis of calls for service indicates that during 1993 there were 34,000 incidents handled or initiated by the SPPD. During 1994, there were 39,000 incidents recorded, or an increase of 13 percent over 1993. Similar increases in calls for service were experienced over 1992 and 1993. The overall reported crime rate increased by approximately 3 percent from 1993 to 1994. In 1994, there were 3,641 Part I (major) crimes reported; in 1993, there were 3,529 major crimes reported. Compared to 1993, in 1994 there were decreases in homicides, rapes, robberies, burglaries, and larcenies, and increases in assaults and vehicle thefts. The biggest change in crimes reported, both in percentage terms and absolute numbers, was in aggravated assault (994 assaults in 1994 compared to 800 in 1993). The SPPD notes that the law now requires that all aggravated assaults be documented, regardless of whether an injury resulted or a complaint was requested (Krathwohl, 1995).

Types and levels of crime differ throughout the City, and are related to land use patterns; for example, more burglary occurs in residential areas. Beat 3 (Old Town) within the city has historically been the highest crime area, with most violations related to graffiti and abandoned vehicles (Eller, 1995). The City has been divided into reporting districts, and events are recorded by reporting district. The five districts with the highest number of Part I events reported are east and west of 23rd Street, near San Pablo Avenue and Davis Park (three districts); along Rumrill Boulevard, in the southwest corner of the City; and a portion of the area between 23rd Street and Rumrill Boulevard, near the southern City limit (City of San Pablo, 1995a).

Code enforcement activities are divided among the three beats. Beat 3 experiences the worst conditions with abandoned cars, weeds, illegal businesses and auto engine or body repair. Abandoned buildings, dilapidated structures and dumping are also primary concerns in Beat 3 as well as Beat 1. Commercially related problems occur in Old Town more than any other area.

The Department sponsors three public safety/volunteer programs including P.I.S.T.O.L., Kids to Camp and Toys for Tots during Christmas. The P.I.S.T.O.L. (Police In Schools To Offer Life) program includes officer education of elementary and junior high level students; currently one officer spends one quarter of his/her time in the schools. The officer teaches basic police familiarization, gun awareness, and D.A.R.E.-style drug prevention programs. The Kids to Camp program takes approximately 12 kids camping each summer. During Christmas the volunteer Toys for Tots program provides toys for children in the community (Eller, 1995; 1996a).

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Previous seismic stability and facility studies have identified the need for a new emergency operations center and jail facility. Earthquake concerns and citations from the State Department of Corrections have mandated that SPPD improve the present police building, or replace it. The SPPD and the Community Development Department are reviewing facilities options.

Asset seizure funds that have paid for office equipment and three additional officers have run out since the law authorizing the seizure funds "sunset" in 1994. The officer positions funded by the asset seizure ended in December 1995 (Eller, 1995).

#### Regulatory and Policy Context

The Growth Management Element of the current San Pablo *General Plan* includes policies related to police services; those policies are listed in the Parks, Open Space, and Recreational Facilities discussion earlier in this chapter.

#### Fire Services

##### Existing Fire Services

The Contra Costa Fire Protection District provides fire protection to the City of San Pablo. The City of San Pablo is served by five District-operated fire stations. Table IV.F.1 below lists each station's number, address, and the number of personnel and engines at each station. The District also maintains an automatic aid agreement with the adjacent cities of Richmond, Pinole, and El Cerrito. The automatic aid agreement requires that the closest emergency unit will respond to an emergency call regardless of jurisdictional boundary (CCFPD, 1996).

Station 70 on San Pablo Avenue houses a single engine and responds to approximately 200 service calls per month. The District uses the Richmond Police Department dispatch system, which is also shared by the San Pablo Police Department. All emergency responses would come from the closest resources of those agencies involved in the automatic aid agreement noted above. The response time goal is to arrive at scene within 6 minutes 90 percent of the time. Certain emergency responses have different staff/equipment requirements. Typical medical emergencies require one engine company; rescues, one engine company, one rescue company, and one Battalion Chief; and first alarm fires, three engine companies, one truck company, and one Battalion Chief (CCFPD, 1996).



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TABLE IV.F.1 FIRE STATIONS SERVING THE CITY OF SAN PABLO

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Station Number	Address	Number of Engines and Personnel
Station 70	13928 San Pablo Ave., San Pablo	1 Engine Company, 3 Fire Fighters
Station 69	4640 Appian Way, El Sobrante	1 Engine Company, 3 Fire Fighters
Station 68	2929 Hilltop Dr., Richmond	1 Engine or Truck Company, 3 Fire Fighters
Station 66	4100 Clinton Ave., Richmond	1 Engine Company, 3 Fire Fighters
Station 62	1065 7 <sup>th</sup> Street, Richmond	1 Engine Company, 3 Fire Fighters

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SOURCE: Contra Costa Fire Protection District, 1996

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All Fire District firefighters are EMT (emergency medical technician) certified. Ambulance service is provided by American Medical Response (AMR). AMR provides paramedics with advanced life support (ALS) services and EMTs with basic life support (BLS) services. There are three ALS units and three BLS units stationed in the San Pablo area with additional units roving in and around the City (CCFPD, 1996).

Fire hydrant pressure and flow are adequate in most areas of the City. There are areas in the City in which fire hydrant placement does not conform with the Uniform Fire Code (CCFPD, 1996).

The overall goal of the Fire District is to meet the communities' emergency response needs as well as provide public fire safety education. Existing District programs include: fire prevention and site inspection for new and remodeled multi-family residential and commercial developments, code enforcement inspections (e.g., weed abatement and hazards mitigation),



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school programs targeting the elementary grade levels (e.g., fire safety and career orientations), and other fire safety programs aimed at all ages in the community.

#### Regulatory and Policy Context

The City's current Growth Management Element identifies the following fire protection performance standards:

- A fire station within 1.5 miles of all residential and non-residential development within the City;
- A five (5) minute response time; and
- Minimum roadway widths of 20 feet and inside turn-around diameter of 35 feet.

#### Public School Facilities

##### Existing and Planned Facilities

The West Contra Costa Unified School District (WCCUSD) provides public school services to the cities of San Pablo, El Cerrito, Hercules, Pinole, and Richmond, and unincorporated areas including El Sobrante, Kensington, North Richmond, and Tara Hills. In 1994, WCCUSD served a population of approximately 200,000 residents over a 110 square-mile area. The District had a starting 1995-96 school year enrollment of approximately 31,900 students (including special education students), and employed approximately 2,180 persons (Burkhart, 1996).

WCCUSD schools include 38 elementary schools, three middle schools, two junior high schools, five senior high schools, two continuation high schools, one middle college, one independent study campus, one adult school, two learning centers, and four Necessary Small Schools. Of these, the WCCUSD school facilities that serve City of San Pablo students include eight elementary schools, one middle school, one junior high school, and two senior high schools (see Table IV.F.2). Public schools within the City of San Pablo are shown in Figure IV.F.1.

TABLE IV.F.2: WEST CONTRA COSTA COUNTY SCHOOLS ATTENDED BY SAN PABLO STUDENTS

<u>School</u>	<u>Enrollment /a/</u>	<u>Capacity District/State Approved</u>	<u>Available Capacity/b/</u>
<u>Elementary Schools</u>			
Bayview	675	682	7
Dover	712	589	(123)
Downer	1,045	806	(239)
Ford	503	310	(193)
Highland	590	279	(311)
Lake	480	372	(108)
Riverside	363	372	9
Sheldon	554	589	35
<u>Junior/Middle Schools</u>			
Crespi Jr.	1,031	1,178	147
Helms Middle	1,089	1,023	(66)
<u>Senior High Schools</u>			
De Anza	1,484	1,302	(182)
Richmond	1,345	1,674	329

/a/ Enrollment figures include 1995 California Basic Education Data System (CBEDs) enrollment totals plus special education enrollment data.

/b/ Portable classrooms are currently used to accommodate a large number of students. The state Department of Education does not consider certain non-permanent classrooms (i.e., leased portables and older portables) as adequate facilities. Capacity figures include only adequate classrooms according to the State definition.

SOURCE: West Contra Costa School District, 1996.

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The WCCUSD completed a Facilities Master Plan in 1989; the Plan was last updated in September 1993. A new elementary school, César E. Chávez Elementary, is expected to open by January 1997. The new elementary school is located five blocks south of San Pablo, in the City of Richmond, within the city block bordered by 17th and 18th Streets and Coalinga and Lincoln Avenues. César E. Chávez Elementary will have capacity for approximately 650 students, and will alleviate some of the capacity problems for elementary schools that serve San Pablo students. The school enrollment boundaries are currently being analyzed by the District for potential changes; as a result, some schools may change the grade levels they serve (Burkhart, 1996).

The 1990 Census provides data on the educational attainment levels for residents that are age 25 or older. Education levels and percentages for San Pablo residents are as follows: college degree- 19.1 percent; some college (no degree)- 20.6 percent; High School graduate or equivalent- 26.1 percent; 9th-12th grade (no diploma)- 20.2; less than 9th grade- 14.0 percent. Of those persons that have received a college degree, about 40 percent have Associate's degrees, about 40 percent have Bachelor's degrees, and about 20 percent have graduate/professional degrees.

##### Regulatory and Policy Context

The Public Facilities Element of the current San Pablo *General Plan* has policies related to providing "High Quality Schools" and maximizing public use of school facilities. That Element also identifies school district capacity standards. The element's policies regarding schools are provided below.

##### High Quality Schools

1. To develop a long-range plan through the Richmond Unified School District for orderly school development, expansion, and school serving areas in keeping with present and future population growth within the City.
2. To delineate the Richmond Unified School District serving areas in accord with public safety, convenience and welfare within the established neighborhoods of the City and within easy and safe walking distance from home to school.
3. To provide adequate student and faculty off-street parking at Richmond Union High School, maximum traffic safety along 23rd Street, and minimum disruption to adjoining residential areas.

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Maximum Public Use

4. To locate new school facilities within neighborhoods of the City as may develop sufficient additional population to warrant additional schools.
5. To maximize the public use of educational and cultural facilities provided by Contra Costa College and other schools within the City whenever educational, supervised and unsupervised recreational, cultural or neighborhood beautification activities can reasonably occur.
6. To encourage maximum public use of land and facilities related to Broadway and Dover Elementary Schools and Downer Junior High School, including 2-story construction for any further facilities to conserve open space.

Currently the fees that school districts can collect from new development are capped by State law at \$1.72 per square foot for residential development and \$0.28 per square foot for commercial/ industrial development. Pursuant to adjustments allowed under State law, the District will increase fees in June to \$1.82 per square foot and \$0.30 per square foot for residential and commercial/industrial development, respectively. Under case law, in the event of a legislative action, such as a General Plan amendment or amendment to a zoning ordinance, the per square foot limit does not apply, and a local jurisdiction can collect a higher school impact fee if it chooses and can justify its decision.

Solid Waste Facilities and Collection Services

Existing Facilities and Services

Refuse collection and disposal in the City of San Pablo are provided by the Richmond Sanitary Service, which operates the West Contra Costa Sanitary Landfill (WCCSL) at the foot of Parr Boulevard. The landfill, which uses a 200-acre waste disposal area in accordance with Regional Water Quality Control Board permits, currently accepts solid waste from residential, commercial and industrial developments from Contra Costa and Marin Counties (Earth Metrics, 1990). The West Contra Costa Sanitary Landfill receives approximately 1,000 tons of waste per day. At the current rate of deliveries, the West Contra Costa Sanitary Landfill is expected to reach its permitted capacity in 1997 or 1998. Richmond Sanitary Service is currently requesting an expansion with the California Integrated Waste Management Board. The expansion request includes increasing the landfill's height from 120 to 130 feet, which would extend the landfill's life by approximately eight months (Burch, 1995). After closure of the WCCSL, waste will be



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transported to another landfill; Contra Costa county landfill locations are being considered (Kattchee, 1995).

Richmond Sanitary Service has recently constructed an integrated resource recovery facility (IRRF) in North Richmond. The recovery facility is on a 21-acre site within the unincorporated area of North Richmond. At full buildout the 21-acre site will include a waste receiving and processing building, an administration building, a visitor center, and vehicle-maintenance and truck-wash buildings (Burch, 1995). The IRRF facility is currently being operated by the West County Resource Recovery (who are affiliated with the Richmond Sanitary District), the facility is permitted to handle 1,200 tons/day and is currently processing 400 tons/day (Kattchee, 1996). While the recovery facility is operating, the WCCSL will take self-transported waste until landfill closure. Richmond Sanitary Service is also contracted by the City as the franchise waste pick-up provider.

Contra Costa County has embarked on a County-wide Program to deal with solid waste problems. The Contra Costa County Solid Waste Management Program's goals are the same as those adopted by the California Integrated Waste Management Board:

- Reduce the amount of solid waste generated (resource reduction);
- Recycle as much of the solid waste as possible (recycle);
- Make use of the nutrient value of the solid waste (composting);
- Make use of the energy of the solid waste (waste energy ); and
- Properly dispose of the remaining solid waste (environmentally safe landfill disposal).

Richmond Sanitary Service offers curbside recycling service to San Pablo residents for the following materials: plastic bottles (PET, HDPE), steel and aluminum cans, glass, bottles, jars, newspaper, and (in the future) cardboard. White office paper pickup is also available to participating offices in the city. Greenwaste disposal for compost is available to residents at the landfill site. The City of San Pablo diverted approximately 9 percent of its waste in 1990. The West County area diverted over 25 percent of its waste in 1993, and currently meets State diversion rate goals (Kattchee, 1995).

Illegal dumping of trash is an on-going problem in the City. Creeks, vacant lots, and alleys are often dumping grounds for trash, typically at the expense of the City. An increase in illegal

dumping is expected after the closing of the West Contra Costa Sanitary Landfill due to anticipated higher disposal fees.

#### Regulatory and Policy Context

The California Integrated Waste Management Act of 1989 (AB 939) established a new integrated waste management planning process, including requirements for counties and cities to meet adopted waste diversion goals for source reduction, recycling and composting programs. The City of San Pablo is a member of a joint powers agreement with other West County cities. The agreement formed the regional West Contra Costa Integrated Waste Management Authority. The Authority is currently in the process of complying with various components of AB 939. As noted previously, the West County area has met the year 1995 source reduction requirement of 25 percent; by the year 2000, the area will need to meet a reduction rate of 50 percent.

Regarding illegal dumping, current City ordinances prohibit and fine dumping activities. City staff report that violators are rarely caught, however.

#### Sanitary Sewers

##### Existing Facilities

Sanitary waste water in the City of San Pablo is served by the West Contra Costa Wastewater District (WCCWD). The capacity of the sewer collection system in San Pablo is adequate for commercial and residential buildout, unless significant increases are made in allowable development densities (Allendorfer, 1995). Typical flow rates for various development types are provided in Table IV.F.3.

The West Contra Costa Water Treatment Plant is at 2377 Garden Tract Road in unincorporated North Richmond. Current average dry weather flow is 6.2 mgd and average wet weather flow is 60 mgd. The treatment plant capacity is 9.5 mgd during dry weather flows and 20 mgd during wet weather flows. Treated sewer transmission to the deep water outfall in the San Francisco Bay is limited to 21.0 mgd peak capacity. Wastewater flows over 20 mgd are pumped to storage basins and treated when wastewater inflows decrease below plant capacity.

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TABLE IV.F.3: TYPICAL WASTEWATER FLOWS BY LAND USE/BUILDING TYPE

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Type of Unit	Unit Flow Rate (gallons per day, per unit)
Single Family Dwelling and Townhomes	270
Apartments	150
Commercial Units	100 gpd/ 1000 Square Feet of Floor Space
Industrial Development	Based on Individual Case Study

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SOURCE: West Contra Costa Wastewater District, 1995.

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The sewer lines in the city are generally 30 to 50 years old and made of mainly vitrified clay pipe and some ductile iron. Certain zones within the sanitary sewer collection system experience high infiltration rates (i.e., water flowing into pipe joints) due to sewer line conditions and groundwater levels. The district performs television inspections of sewer and is inspecting streets in San Pablo proposed for improvements in the current Street Improvement Program. As defects are discovered, it is the District's policy to replace or repair pipeline ahead of street resurfacing projects. Currently a section of sewer line on Rumrill Boulevard is slated for replacement.

#### Regulatory and Policy Context

The Growth Management Element of the current San Pablo *General Plan* includes policies related to sanitary facilities; those policies are listed in the Parks, Open Space, and Recreational Facilities discussion earlier in this chapter.

#### Water Service

##### Existing Facilities and Services

The East Bay Municipal Utilities District (EBMUD) supplies water to the City of San Pablo. Potable water is supplied through the San Pablo Dam from the Mokelumne River in the Sierra

Nevada Mountains, and from local rain-fed reservoirs. Groundwater is not used by EBMUD as a water source.

The raw water from the Mokelumne River is transported to the East Bay through the Mokelumne Aqueducts. Raw water is treated at the Orinda or Sobrante treatment plants. The Claremont Tunnel transports potable water from the Orinda treatment plant to the water transmission and distribution network, west of the Oakland-Berkeley Hills. The Wildcat Aqueduct and other major transmission mains from the Sobrante treatment plant transmit water to the service area in the City of San Pablo. San Pablo is served by several pressure zones, namely Central, Aqueduct, Road 24, Berryman, Maloney, and Argyle. The Central and Aqueduct pressure zones are the only ones that use gravity solely for water pressures. These pressure zones extend beyond San Pablo's City limits. The major distribution reservoirs that provide storage for the City (and their capacities) are: North -- 79.1 Million Gallons (MG); Road 24 -- 5 MG; and Schapiro -- 4.1 MG. These distribution reservoirs also serve other nearby communities, such as Richmond, El Cerrito, Albany, Berkeley, and Pinole (Jog, 1995).

There are four major water transmission mains serving San Pablo: 1) a 36-inch-diameter main running north to south along El Portal Drive, Church Avenue, Willow Road, Contra Costa Avenue, Riverside Avenue, and South along Amador Street; 2) a 60/48-inch-diameter main in Road 20 from Interstate 80 to Rumrill Boulevard; 3) a 48-inch main along Rumrill Boulevard from Road 20 south to Market Avenue; and 4) a 24-inch main running south along 21st Street from North San Pablo Avenue to Costa Avenue. Currently, there are no known concerns regarding the conditions or adequacies of these mains. The consumption within the City for the year 1994 is shown in Table IV.F.4.

EBMUD developed a Master Plan in 1983; the most recent update was adopted by the District's Board of Directors in June 1995. There are no planned facility expansions or large conservation projects at this time that would directly affect the City of San Pablo.

#### Regulatory and Policy Context

The Growth Management Element of the current San Pablo *General Plan* includes policies related to water facilities; those policies are listed in the Parks, Open Space, and Recreational Facilities discussion earlier in this chapter.



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TABLE IV.F.4: SAN PABLO WATER USAGE, 1994

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Water User	Annual Usage (Gallons)
Domestic	666,021,000
Industrial	14,000,000
Commercial	96,877,000
Schools/Hospitals	68,419,000
Landscape/Agriculture	42,483,000
Fire Services	25,000
TOTAL	875,225,000

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SOURCE: East Bay Municipal Utilities District.

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In May 1994, a Water Conservation Master Plan was adopted by EBMUD to increase conservation District-wide. The major elements of the program are: incentives and rebates (low-flush toilets and irrigation system upgrades); more stringent regulatory control; research through monitoring, survey, and reclaimed water use; and educational measures through publications, presentation, workshops, and conferences. The City's Landscape Ordinance is based on the EBMUD Model Water Conservation Ordinance.

#### Telephones and Communication Service Providers

##### Existing Services

Pacific Bell Corporation provides local telephone service to the San Pablo area. The telephone lines in the City are typically aerial, running parallel with electrical lines from pole to pole. In the case of new development in the area, telephone wires are laid concurrently within the same public easement as Pacific Gas and Electricity (PG&E) lines. Pacific Bell anticipates that service provision will continue to meet any new demands generated in the City (Bihl, 1995).

Pacific Bell can provide infrastructure improvements that upgrade communication lines for data transfers along the information superhighway. Integrated Services Digital Network or more commonly referred to by its acronym, ISDN, weaves together the conversation, data and video

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that people and machines exchange. ISDN technology divides common telephone lines into three digital channels that can transmit all forms of digitized information. Voice, data, facsimile, images and video can all be combined and transmitted simultaneously. Different grades of telephone lines can determine the quality of digital transfer; Category 3 wiring adequately supports ISDN data and video applications. Category 3 wiring is typical for existing telephone infrastructure; Category 5 wiring is available (at additional cost) and designed for faster data transfer. (Pacific Bell, 1995)

##### Regulatory and Policy Context

Pacific Bell's regulation is administered by the California Public Utilities Commission. Construction of infrastructure improvements is within the oversight of the San Pablo Building and Public Works Departments.

##### Electricity and Natural Gas

##### Electricity

PG&E provides local electrical service to the San Pablo area. The city is served by four distribution lines from substations outside San Pablo. The electrical lines in the City are typically overhead, except for a portion of San Pablo Avenue between Road 20 and San Pablo Dam Road. The overhead line infrastructure is approximately 50 to 60 years old. There is an ongoing maintenance program in the City to replace damaged poles and electrical infrastructure. Safety concerns take priority for any upgrading or infrastructure replacement. There is currently spare capacity for service in the City and PG&E does not anticipate any great electrical demands from San Pablo, as the city is mostly built out.

##### Natural Gas

PG&E provides local natural gas service to the San Pablo area. Three natural gas transmission lines feed into the San Pablo station at Rumrill Boulevard and Folsom. An eight-inch distribution main serves the City from this station. The system has additional capacity to support new residential and light commercial development. The distribution system is designed for normal loads and pressures. Any new large industrial uses may require loading increases that would require additional natural gas pressures and/or pipelines (Gore, 1995).

## Regulatory and Policy Context

PG&E's regulation is administered by the California Public Utilities Commission. The City's Building and Public Works Departments oversee some PG&E infrastructure improvements within the City limits.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project would normally have a significant effect on the environment if it would:

- Interfere with emergency response plans or emergency evacuation plans. Based on this criterion, the updated General Plan would result in a significant impact if it would allow new development without increases in staffing and equipment needed to maintain acceptable levels of fire and police service, or would result in a substantial need for new altered, or expanded police and fire services not met by the updated General Plan.
- Conflict with established educational uses of the area. Appendix I of the CEQA *Guidelines* indicates that a project could have a significant effect if it would result in the need for new or altered school services. Based on these criteria, the updated General Plan would result in a significant impact if it would interfere with the provision of existing or planned school services, allow new development without appropriate increases in school staffing and facilities, or result in a substantial need for new, altered or expanded school services not met by the proposed project.
- Result in the need for new or altered utility systems. Based on this criterion, implementation of the updated General Plan would result in a significant impact if it would result in a substantial need for new, altered, or expanded water, wastewater, or storm drainage systems. Appendix G of the CEQA *Guidelines* also states that a project would normally have a significant effect on the environment if it would encourage activities which result in the use of large amounts of water, use water in a wasteful manner, or substantially degrade or deplete water resources.

In general, fee-based utilities and services, such as gas and electric, telephone, and cable television, would provide for additional development through capital improvements based on service fees. Impacts to those services are considered to be less than significant, and are not discussed in this section.

- Conflict with adopted environmental plans and goals of the community where it is located, or if it would breach published national, State, or local standards relating to solid waste or litter control. Based on these criteria, implementation of the updated General Plan would result in a significant impact if it would interfere with the achievement of the waste



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diversion level mandated by AB 939, or result in a need for expanded solid waste services not met by the updated General Plan. Implementation of the updated General Plan would also result in a significant impact if it would result in development that would not meet the performance standards in the Growth Management Element of the current San Pablo *General Plan*.

**Significant Impacts**

**Impact Park-1: Development consistent with the updated General Plan would increase the need for parks, recreation facilities, and recreational programs. This would be a significant impact.**

As noted in the Setting, the City currently has inadequate area devoted to parks and recreational facilities, based on the standards in the Growth Management Element of the current *General Plan*. Under the updated General Plan, the population would reach approximately 31,600 people by 2010, resulting in the need for a total of about 95 acres of parks and 47,400 square feet of recreational building space to meet the standard in the proposed Circulation, Public Facilities and Services Element. Population growth that would occur with the updated General Plan would require development of additional park facilities to meet the new standard. In addition to park facilities, there would be increased demand for City-subsidized recreation programs, especially for the youth and senior citizens of San Pablo.

As noted in the Setting, the City maintains one eight-acre park and four community centers, and there are recreational facilities available at area schools. Table III.3 in Section III indicates that, under the updated General Plan, 52 acres outside of Mixed Use Districts would be designated as Community Open Space. The updated General Plan also provides for incorporation of new open space and recreation facilities within the Mixed Use Districts; at buildout, the Mixed Use Districts would incorporate 29 acres of Community Open Space (in Districts 2, 6, and 8) and 10 acres of Urban Open Space (in Districts 1, 2, 3, and 6). The 91 acres of community and urban open space would all be applied toward meeting the park standard (if it is improved and made accessible to the entire population), and would almost be sufficient to meet the 95 acres needed. Because the 91 acres correspond to buildout conditions, however, it is not known how much community and urban open space would be incorporated into the level of development assumed for this EIR. The deficiency in park facilities would be most likely felt in the northernmost area of the City, where there currently are no City-run facilities and no facilities would be built under the updated General Plan.



**Impact Park-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions in the proposed Circulation, Public Facilities and Services Element are related to park and recreation facilities:

**Policy CF 2.1: Child Care Facilities**

**Policy CF 2.4: Senior Services**

**Policy CF 2.6: Youth Development**

**Policy CF 4.1: Quantity of Park Facilities**

**Policy CF 4.2: Existing Park Quality**

**Policy CF 4.3: Private Facilities**

**Action CF 2.A: Community Based Organizations Grant Program (CBOGP)**

**Action CF 2.B: Childcare Ordinance**

**Action CF 2.M: Senior Services Plan**

**Action CF 2.P: Youth Services Coordinator**

**Action CF 2.Q: Youth Commission**

**Action CF 4.A: Recreation and Parks Master Plan**

**Action CF 4.B: School District Partnership**

**Action CF 4.C: Contra Costa College**

**Action CF 4.D: Redevelopment Agency**

**Action CF 4.F: City Sponsored/Coordinated Events**

**Action CF 4.G: Mini-Parks**

**Action CF 4.H: Davis Park Master Plan**

**Impact Park-1: Mitigation Measures Identified in the Growth Management and Housing Elements of the Current *General Plan***

The Growth Management Element of the *General Plan* includes policies related to recreation. Please see the list of related measures in the Setting portion of this section, above. Policies listed include Implementing Policies P.3.1 and P.3.4.

**Impact Park-1: Mitigation Measures Identified in this EIR**

The following measures are identified to help ensure the ultimate implementation of the policies and actions in the updated General Plan:

**Park 1a:** The City shall incorporate into Action CF 4.A (Recreation and Parks Master Plan) a mechanism for annual evaluation of the Plan and its implementation.

IV. Environmental Setting, Impacts and Mitigation Measures  
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**Park 1b:** The City shall adopt a policy requiring it to work with institutions (such as the School District and EBRPD) and private developers who have large parcels to create parks and open space.

**Impact Park-1: Significance After Mitigation**

If the City were successful in implementing the planning efforts identified in Actions CF 4.A and CF 4.G, incorporating the full amount of land designated for community and urban open space in the Mixed Use Districts, acquiring land and providing parks through redevelopment efforts, and negotiating agreements with the School District to provide additional recreation facilities and programs, this impact would be fully mitigated. However, in the absence of an assurance that adequate facilities would be provided, this is considered a significant, unavoidable impact.

**Impact Emergency Response-1: The City's Multi-Hazard Functional Plan may be considered inadequate under State law. This would be a significant impact.**

The Multi-Hazard Functional Plan should address emergency response situations under current and future development, and be consistent with the updated General Plan. The potential inadequacies could present issues or constraints related to the City's ability to provide effective emergency response services. New development in the City would bring in more residents, employees, and visitors that would need to rely on the City's response capabilities in a major disaster. For these reasons, the impact would be significant.

**Impact Emergency Response-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions are contained in the proposed Public Safety and Related Services Element:

**Policy PS 1.1: Public Education and Disaster Awareness**

**Policy PS 1.2: Disaster Preparedness**

**Policy PS 1.3: Regulatory Actions**

**Action PS 1.A: Hazardous Safety Zone Map and Users Guide**

**Action PS 1.B: Information Resource Center**

**Action PS 1.C: Public Education Safety Strategy**

**Action PS 1.D: Update the Multi-Hazard Functional Plan (MHFP)**

**Action PS 1.E: Regulatory - Building Structural Safety: Existing Construction**

**Impact Emergency Response-1: Mitigation Measures Identified in the Growth Management and Housing Elements of the Current *General Plan***

None identified.

**Impact Emergency Response-1: Additional Mitigation Measures Identified in this EIR**

None required.

**Impact Emergency Response-1: Significance After Mitigation**

Implementation of the above mitigation measures (and in particular, updating of the MHFP) would reduce the impact to a less-than-significant level.

**Impact Police-1: Development consistent with the updated General Plan would result in increased demand on police services in the City. This would be a significant impact.**

The San Pablo Police Department estimates that development that would occur consistent with the updated General Plan would generate a need for a total of 60 sworn officers and 17 additional support staff. Additional fully equipped patrol cars also would be required to patrol the study area. New police facilities that are currently planned to address seismic stability requirements would also be designed to handle population increases projected under the updated General Plan (Eller, 1996b).

Service demand from the California Highway Patrol, East Bay Regional Park District and the Coast Guard could also increase, as additional development could increase the number of freeway, park and water emergency calls.

**Impact Police-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions in the proposed Public Safety and Related Services Element would either help to make police services more effective or help to prevent crime (and the need for police services):

**Policy PS 2.1: Growth Management Element Service Standards**

**Policy PS 2.2: Business Partnerships**

**Policy PS 2.3: Community Relations**

**Policy PS 2.4: Youth Involvement**

**Policy PS 2.5: Neighborhood Image Enhancement**

**Action PS 2.A: Property Maintenance Ordinance**  
**Action PS 2.B: Public Safety Strategy**  
**Action PS 2.C: Federal, State and Private Funding**  
**Action PS 2.D: Youth Outreach and Diversion Program**  
**Action PS 2.E: Coordinated Blight Removal Program**  
**Action PS 2.F: Community Outreach Specialist - Police Relations Officer**  
**Action PS 2.G: Regional Cooperation**  
**Action PS 2.H: Upgrade of Police Facilities**  
**Action PS 2.I: Small Town Service Approach**  
**Action PS 2.J: Neighborhood Police Station/Specialty Vehicle**  
**Action PS 2.K: Community Recognition of Achievements**  
**Action PS 2.L : Public Safety and Police Information**  
**Action PS 2.M : Community Wide Safety Retrofit Program**

**Impact Police-1: Mitigation Measures Identified in the Growth Management and Housing Elements of the Current *General Plan***

The Growth Management Element of the current San Pablo *General Plan* includes policies related to police services; those policies are listed in the Parks, Open Space, and Recreational Facilities discussion in the Setting portion of this chapter. A Facility Performance Standard related to Police response times (for first unit) is included below:

- (1) Life Threatening calls: 2-3 minutes
- (2) Critical Emergency: 2-3 minutes
- (3) Non-critical emergency: 2-3 minutes
- (4) Non-emergency: 10-30 minutes
- (5) Other: 30 minutes

**Impact Police-1: Mitigation Measures Identified in this EIR**

**Police-1a:** The City shall add the following policy to the Public Safety and Related Services Element:

The City shall adopt the national standard of 1.5 positions per 1,000 residents.

**Impact Police-1: Significance After Mitigation**

The mitigation measures identified above would help to ensure adequate police staffing and equipment levels, as well as increased public safety and community awareness. Through implementation of policies in the Growth Management Element, development that would result



from the project would likely generate adequate revenue to meet the Police Department's projected staffing and equipment needs and, therefore, would reduce the impact to less-than-significant levels.

**Impact Fire-1: Development consistent with the updated General Plan would result in increased demand on the Fire District services in the City. This would be a significant impact.**

Residential and commercial development that would occur consistent with the updated General Plan would increase the resident and daytime population of the City and would increase the building square footage within San Pablo. This would result in increased demand for fire suppression and other emergency response services, potentially including increased equipment and personnel.

In response to development potential under the updated General Plan, the Fire District has indicated that response times could increase if there were substantial traffic congestion increases. Response time increases also could occur if future development or redevelopment were to include changes in traffic circulation, permanent street closures, and/or speed bumps. As noted in the above Setting section, fire hydrant placement in some areas of the City does not conform with the Uniform Fire Code. The Fire District has noted that redevelopment areas reduce funding levels to Fire Districts, which impacts emergency operations and budgetary needs. The District has stated that the City should work with the Fire District for "pass through" funds in areas of redevelopment and coordinate directly with the District's Fire Prevention Bureau to discuss any future circulation, development, and/or redevelopment plans as part of the permitting process (CCFPD, 1996).

**Impact Fire-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions in the proposed Public Safety and Related Services Element would either help to make fire services more effective or help to prevent fires (and the need for fire services):

**Policy PS 3.1: Growth Management Service Levels**

**Policy PS 3.2: Fire Department Relations**

**Policy PS 3.3 Fire Services Education**

**Action PS 3.A: Support Local Fire District Activities**

**Action PS 3.B: Fire Department Service Review and Recommendations**

**Action PS 3.C. Local Resource Center**

**Impact Fire-1: Mitigation Measures Identified in the Growth Management and Housing Elements of the Current *General Plan***

The Growth Management Element of the current San Pablo *General Plan* includes policies related to fire services; those policies are listed in the Parks, Open Space, and Recreational Facilities discussion in the Setting portion of this chapter. Section 3.4 b. of the Facility Performance Standard also has policies related to Fire District standards, included below:

- (1) A fire station within 1.5 miles of all residential and non-residential development within the City.
- (2) Six minute response time.
- (3) Minimum roadway widths of 20 ft and turn around inside diameter of 35 ft.

**Impact Fire-1: Additional Mitigation Measures Identified in this EIR**

The City shall add the following policies or implementation programs to the updated General Plan:

**Fire-1a:** The City shall assist the Fire Protection District in processing the collection of fire impact fees from any redevelopment projects within the City's Redevelopment Plan Area(s).

**Fire-1b:** The City shall work with the Fire Protection District to determine specific needs for fire protection when a particular development proposal is reviewed and ensure the District's needs are met.

**Impact Fire-1: Significance After Mitigation**

Implementation of the above mitigation measures would ensure adequate fire safety and service, and would reduce the project's impact on the Fire Protection District to a less-than-significant level.

**Impact Schools-1: Development consistent with the updated General Plan would increase the number of students served by the West Contra Costa Unified School District. This would be a significant impact.**

The West Contra Costa Unified School District uses a student generation factor as shown in the following Table IV.F.5. Development consistent with the updated General Plan (reasonably

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foreseeable development through 2010) would result in the addition of approximately 380 households. Using the more conservative multi-family generation ratio, approximately 305 additional students would attend schools in San Pablo.

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TABLE IV.F.5: STUDENT GENERATION FACTORS BY DWELLING UNIT TYPE

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Class Level	Single Family Dwellings	Multi Family Dwellings
Elementary	0.44	0.543
Junior High	0.10	0.116
High School	0.20	0.144

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SOURCE: West Contra Costa Unified School District, 1996.

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The future student capacity would accommodate approximately 9,744 students (9,094 existing capacity plus 650 from the new school). Adding the 305 students that would be generated by the additional households to the current enrollment of approximately 9,871 students results in a total enrollment of approximately 10,176. The future school capacity in San Pablo would be exceeded by approximately 432 students (see Table IV.F.6). This would likely warrant the construction of one additional school, most likely an elementary school. It is possible that additional school(s) could be designated to accept San Pablo students. However, the West Contra Costa Unified School District does not have excess capacity on a district-wide basis, and is not projected to have excess or adequate capacity in 2010.

The West Contra Costa Unified School District estimates the following school construction costs: \$20,975 per student for an elementary school; \$27,352 per student for a junior high school; and \$32,815 per student for a high school. Some of this money would be collected from development fees for new development, but development fees (except for projects requiring legislative action, such as a General Plan amendment) are capped by State law. Assuming an average multi-family unit of 1,000 sq. ft. and the upcoming development fee, anticipated

TABLE IV.F.6: PROJECTED SCHOOL CAPACITIES AND ENROLLMENTS, 2010 /a/

School	Enrollment			Future Capacity	Surplus (Deficit)
	Existing	Project	Total		
Elementary Schools (8)	4,992	206	5,128	4,567	(561)
Middle/Jr. Schools (2)	2,120	44	2,164	2,201	37
High Schools (2)	<u>2,829</u>	<u>55</u>	<u>2,884</u>	<u>2,976</u>	<u>92</u>
TOTALS	9,871	305	10,176	9,744	(432)

/a/ Assumes opening of César A. Chavez Elementary School (capacity 650). Assumes no changes in capacity at existing schools.

SOURCE: West Contra Costa Unified School District, 1996; Environmental Science Associates

development consistent with the updated General Plan would generate roughly \$800,000 in development fees through 2010. (As noted previously, the District's upcoming fee schedule is \$1.84 per square foot for residential development and \$0.30 per square foot for commercial/industrial development.) These potential development fees would be substantially less than the approximately \$11.7 million required to fund construction of an elementary school to provide the additional capacity needed (Burkhart, 1996).

#### **Impact Schools-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions are contained in the proposed Circulation, Public Facilities and Services Element:

##### **Policy CF 2.5: Educational System**

#### **Impact Schools-1: Mitigation Measures Identified in the Growth Management and Housing Elements of the Current *General Plan***

None identified.



### **Impact Schools-1: Mitigation Measures Identified in this EIR**

**Schools-1a:** The City will not issue future legislative development approvals unless adequate school facilities are available or adverse impacts upon school facilities have been mitigated to the maximum extent legally feasible. The City shall promptly notify the West Contra Costa Unified School District of all applications for approval of specific development projects with the potential for a significant impact on schools. The City will coordinate with the School District to develop appropriate project-specific mitigation measures. The City will give careful consideration to the School District's analysis of proposed mitigation. For specific development proposals that require legislative action (e.g., General Plan Amendment, adoption of Specific Plan, amendment to Zoning Ordinance) and that have a substantial effect on school facilities through a projected increase in enrollment, the City shall enter into consultation with the School District and the project proponent(s) to determine whether there can be determined a mutually agreeable contribution to the school district by the proponent(s) (including, but not limited to cash payment, land dedication, and/or provision of school facilities) to offset the impacts of increased enrollment.

**Schools-1b:** For new developments having a significant impact on school facilities, the City shall take steps to ensure that developers coordinate with the District (via the City) regarding timely and proper submittal of the required development impact fees. The City shall review development proposals and determine whether it believes any additional mitigation recommended by the West Contra Costa Unified School District to be warranted.

**Schools-1c:** In consultation with the West Contra Costa Unified School District, the City will seriously evaluate all available options for enhancing school financing, such as negotiating development agreements and redevelopment agreements providing for payment of additional school impact fees, participation in a Mello-Roos district for property proposed for development, and working with the School District and property owners to arrange donation or reservation of land for an elementary school site. The City shall work with the School District to negotiate an agreement whereby the School District commits to expending fees received from development within San Pablo for facilities within City boundaries to the maximum extent legally feasible.

### **Impact Schools-1: Significance After Mitigation**

Implementation of the above mitigation measures would reduce the impacts on public school facilities by providing some funding to offset projected increases in enrollment. It is not known, however, if the mitigation would result in the School District collecting a fee higher than that required by State law, and adequate to provide the necessary facilities. (The District has indicated that by collecting its adopted fee of \$3.45 per square foot of residential construction, it would receive enough in fees to qualify for State matching funds that are provided to local districts that collect fees amounting to 50 percent or more of the cost of school construction

(Cole, 1995).) Therefore, the mitigation measures identified for this EIR would not reduce the impact to a less-than-significant level.

**Impact Wastewater-1: Development consistent with the updated General Plan would increase the demand for wastewater treatment. This would be a significant impact.**

The City of San Pablo's projected growth at 2010 would increase the average daily wastewater flow demand by about 0.21 mgd Average Waste Water Flow (AWWF)<sup>3</sup>. The increase in wastewater treatment demand may require further improvements to existing treatment facilities and/or infrastructure of the West Contra Costa Wastewater District. Any necessary improvements to the collection (sewer lines) that would serve new development would be made by property owners and/or developers.<sup>4</sup>

**Impact Wastewater-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions are contained in the Circulation, Public Facilities and Services Element of the updated General Plan:

**Policy CF 3.1: Water, Wastewater and Storm Drainage**

**Action CF 3.A: Infrastructure Development Costs**

**Action CF 3.B: Infrastructure - Wastewater and Water Services**

**Action CF 3.C: Outdated Infrastructure Improvements**

**Impact Wastewater-1: Mitigation Measures Identified in the Growth Management and Housing Elements of the Current *General Plan***

Related sanitary sewer facility policies (described under sanitary facilities) in the Growth Management Element are listed in the Setting section, under Parks, Open Space, and Recreational Facilities. An additional "Facility Performance Standard" within the Growth Management Element is included below:

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<sup>3</sup> The 0.21 mgd AWWF assumes a factor of 210 gallons/unit/day times an expected increase of 997 units. Unit increase was calculated using persons per household factor of 3.05 and a population increase of 3,040 between 1990-2010 (Metcalf, 1991).

<sup>4</sup> Contra Costa Wastewater district has not responded to formal information requests regarding General Plan affects to wastewater systems.

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3.4.d.(2) Sanitary Sewer Facilities. Verification by West Contra Costa Sanitary District that adequate sewage collection and waste water treatment can be provided, shall be required for approval of any new development.

**Impact Wastewater-1: Mitigation Measures Identified in this EIR**

None Required.

**Impact Wastewater-1: Significance After Mitigation**

Implementation of the above mitigation measures would reduce this impact to a less-than-significant level.

**Impact Water-1: Development consistent with the updated General Plan would increase demand for potable water and could require additional delivery and/or storage facilities. This would be a significant impact.**

The projected growth in population and employment would place an increased demand on East Bay Municipal Utility District (EBMUD) water resources supplied by existing pressure zones, filter plants and aqueducts. Approved and reasonably foreseeable development would generate additional demand for potable water. As stated in the Setting, potable water is supplied to new development based on a system capacity charge that offsets the cost of new improvements. EBMUD would be able to supply potable water to all parcels in the City, barring drought emergencies. Population growth planned in mixed use areas may impact different pressure zones within the City.<sup>5</sup> Specific impacts to pressure zones are typically analyzed by EBMUD on a project specific basis; future development in mixed use areas would need to be evaluated by EBMUD for potential impacts (Jog, 1996).

**Impact Water-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions are contained in the Circulation, Public Facilities and Services Element:

**Policy CF 3.1 listed above.**

**Actions CF 3.A, 3.B and 3.C listed above.**

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<sup>5</sup> The names of pressure zones that serve the City include: Central, Aqueduct, Road 24, Berryman, Maloney, and Argyle.



The following action related to water conservation is contained in the Environmental Resources Management Element:

**Overall Open Space - Action ER 1.A. Community Level Environmental Resource Information/Education**

**Impact Water-1: Mitigation Measures Identified in the Growth Management and Housing Elements of the Current *General Plan***

Related water services policies in the Growth Management Element are listed in the Setting, under Parks, Open Space, and Recreational Facilities. An additional "Facility Performance Standard" within the Growth Management Element is included below:

3.4.e. Water Service Facilities. Verification by East Bay Municipal Utility District that adequate water quantity and quality can be provided shall be required for approval of any new development.

**Impact Water-1: Additional Mitigation Measures Identified in this EIR**

**Water-1a:** The City shall include the following actions in the in the Circulation, Public Facilities and Services Element of the updated General Plan:

- The City will practice water conservation in the management of parks and the requirements for landscape design development.
- The City will encourage the installation of dual plumbing systems in large developments to accommodate future use of reclaimed wastewater for non-domestic purposes such as landscape irrigation, commercial and industrial process uses and toilet flushing in non-residential buildings.

The City shall condition approval of individual development proposals on the following implementation programs:

**Water-1b:** The City shall adopt by reference or through individual policy EBMUD's Water Conservation Master Plan such as the installation of low-flush toilets and other low-flow plumbing fixtures for new residential and commercial development.



### **Impact Water-1: Significance After Mitigation**

Implementation of the above mitigation measures would reduce the impact of potable water demand and on water delivery facilities to a less-than-significant level.

#### Less-Than-Significant Impacts

Development consistent with the updated General Plan would increase the demand for solid waste services. The population increase of approximately 3,040 people and additional commercial businesses expected under the updated General Plan may create the need for additional solid waste pickup and disposal services, and would result in an increase in the amount of waste requiring landfilling. The Richmond Sanitary District has stated that the projected increase in population may require one additional pick-up route and that such an increase is less than significant. Continued implementation of the City's recycling program could offset at least part of this increase, through increased rates of recycling. The City's Source Reduction and Recycling Element contains programs to reduce the amount of solid waste.

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F. Public Services and Utilities

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## **G. HAZARDOUS MATERIALS AND WASTES**

### **SETTING**

#### **Generation of Hazardous Waste**

San Pablo has relatively little heavy industry compared to other cities and, compared to neighboring communities, San Pablo generates relatively little hazardous waste (Contra Costa County, 1989; City of San Pablo, 1980). The City has 26 acres of land in industrial use and 268 acres in commercial use in 1980, as compared with 1,048 acres of residential use (see Table III.2 in Chapter III, Project Description). The largest industrial generators of hazardous waste in Contra Costa County are situated in Richmond, Pittsburg, Antioch, Martinez, and Rodeo; none are in San Pablo.

Contra Costa County's goals, objectives, and policies for managing hazardous wastes and hazardous waste facilities are set forth in the *County Hazardous Waste Management Plan* (CHWMP). The CHWMP provides a comprehensive look at all aspects of hazardous waste management in the County, from generation through disposal. Ordinances, plans, and programs for managing hazardous wastes in the County are summarized in Chapter 2, Section VI of the CHWMP (Contra Costa County, 1989). A discussion of the CHWMP and information on federal, state, and local laws protecting public health and safety are presented in Appendix C.

#### **Transport of Hazardous Waste and Hazardous Materials**

Transport of hazardous waste and hazardous materials is regulated by federal and state agencies, primarily the California Highway Patrol and the California Department of Transportation (see Appendix C). San Pablo has no City Ordinances that deal with the transport of hazardous materials. Truck routes in the City that may be used for the transport of hazardous materials include San Pablo Avenue, Giant Road, and Rumrill Boulevard (Chadwick, 1995). Brookside Hospital is known to receive shipments of radioactive substances on a regular basis (City of San Pablo, 1976).

#### **Business Plans**

Throughout Contra Costa County, Hazardous Materials Management Plans (Business Plans) must be prepared for the County by businesses that use or store at least a certain amount of hazardous materials. Business Plans are relevant to the management of hazardous materials

#### IV. Environmental Setting, Impacts and Mitigation Measures

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because they include an emergency response plan with notification, mitigation, and evacuation components, and provide for regular employee training. The County provides copies of Business Plans to the local fire department.

##### Underground Storage Tanks

The Contra Costa County Health Services Department (HSD) issues permits for installation of underground storage tanks (USTs). For removal of underground storage tanks, both the county Health Services Department and the local Fire Department become involved. A closure plan for tank removal must be prepared by the applicant and submitted to the Health Services Department. Upon approval of the tank closure plan, the Department issues a permit for tank removal. Underground storage tanks would primarily be associated with service stations, but they may also be found in connection with hospitals, companies with a backup power supply, older industrial uses, and places where City vehicles are serviced (such as the Police Department and the Corporation Yard).

##### Pipelines and Railroads

Several pipelines that carry petroleum products and natural gas traverse the City. These hazardous materials pipelines are operated in rights-of-way maintained by Standard Oil, Southern Pacific, Unocal, and others.

Pipeline safety is regulated by the federal government for both inter- and intrastate pipelines under the Natural Gas Pipeline Safety Act of 1968 and the Hazardous Liquid Pipeline Safety Act of 1979. Federal safety regulations cover design, construction and operation of pipelines, pipeline testing and operator reporting requirements.

Railroad tracks border the western edge of San Pablo. The U.S. Department of Transportation regulates transport of hazardous materials across state lines and all hazardous material transport by rail. Federal law requires that railroads accept all hazardous materials shipments that are offered them. The relevant federal regulations are contained in the Code of Federal Regulations, Title 49.



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###### Contaminated and Impaired Sites

The Hazardous Materials Division of the Health Services Department oversees cleanup of contaminated soil at sites in the County. Chapter 11 of the CHWMP provides a list of seriously contaminated (i. e., California Superfund ) sites in the County. Of the 23 properties so identified, only one is in the City of San Pablo. The San Pablo superfund site is American Standard Products at 3002 Giant Road, where the soil is contaminated with heavy metals (Contra Costa County, 1989).

The California *Hazardous Wastes and Substances Sites List* includes 16 properties in San Pablo known to be environmentally impaired, mostly resulting from USTs that leaked or were abandoned (California Environmental Protection Agency, 1994). Properties listed by the state are shown in Table IV.G.1. The information in Table IV.G.1 is from the latest list available; the current status of remediation of sites listed in the table was not provided.

Of the properties listed in Table IV.G.1, the East Bay Wash Rack site at 2812 Giant Road and the former service station parcel at 2025 23rd Street are identified as Opportunity Sites for business development in the City of San Pablo Economic Development Strategy Plan (City of San Pablo, 1993).

###### Emergency Response

Contra Costa County operates its own local emergency response agency in the Office of Environmental Health. Environmental Health Emergency Response personnel are available to respond to a hazardous materials release around the clock, seven days a week. Personnel are able to advise fire or law enforcement agencies of human health and safety, as well as environmental requirements for mitigation and cleanup in the event of a release of hazardous materials.

###### Household Hazardous Waste

Household hazardous wastes typically include paints, solvents, pesticides, used motor oil, and old car batteries, among other items. The City of San Pablo has a Household Hazardous Waste

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TABLE IV.G.1: ENVIRONMENTALLY IMPAIRED SITES IN THE CITY OF SAN PABLO

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<u>Location</u>	<u>Property</u>	<u>Impairment</u>
1441 Broadway	Erwin Automotive Service	Leaking UST
Broadway & San Pablo	Heidi & Williams	Leaking UST
2876 El Portal Drive/a/	BP Oil	Leaking UST
2812 Giant Road	East Bay Wash Rack	Leaking UST
3002 Giant Road	American Standard, Inc.	Heavy metals
2550 Mission Bell Drive	ARCO Service Station	Leaking UST
2600 Mission Bell Drive	Contra Costa Community College	Leaking UST
2550 Moraga Road	Richmond School District	Leaking UST
2601 Road 20	USA Service Station	Leaking UST
1820 Rumrill Street	Chevron Station	Leaking UST
13052 San Pablo Ave.	Shell Service Station	Leaking UST
13139 San Pablo Ave.	Shell Service Station	Leaking UST
13685 San Pablo Ave.	Unknown	Leaking UST
14290 San Pablo Ave.	Shell Service Station	Leaking UST
16400 San Pablo Ave./a/	Exxon Service Station	Leaking UST
2025 23rd Street	Chevron Service Station	Leaking UST

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/a/ Located in unincorporated area of Contra Costa County.

SOURCE: *Hazardous Waste and Substances Sites List* (Cortese List), 1994

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Element of the Contra Costa County Integrated Waste Management Plan. The Household Hazardous Waste Element promotes proper collection, handling, and disposal of hazardous waste generated by households. These activities currently are implemented by the Contra Costa County Health Services Department Household Hazardous Waste Program.

#### Regulatory and Policy Context

The current San Pablo *General Plan* contains a Public Safety Element (Chapter V) that discusses (among other topics) the transport of hazardous materials, and includes several policies related to hazardous materials and wastes. These include:

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Policy 6: The City shall specify transportation routes for hazardous materials to minimize the possibility of casualties and property damage if a mishap occurs.

Policy 7: The City shall regulate on street parking of any vehicle carrying hazardous materials to minimize the possibility of accidents or the theft of hazardous materials.

Policy 8: The City shall determine the places within the City that receive shipments of hazardous materials and regulate the handling of the hazardous materials and the cleaning and storage of hazardous material containers and transport vehicles.

Policy 9: The City shall require new facilities that use hazardous materials to locate along major transportation routes and away from schools, residences, and places of public assembly.

San Pablo has an ordinance (Chapter 17.70) regarding the siting of hazardous waste facilities. The ordinance requires that all applicable land use permits granted for the operation or expansion of a hazardous waste facility "shall be consistent with the portions of the county hazardous waste management plan which identify general areas or siting criteria for hazardous waste facilities. . . ." The City Council or Planning Commission must find that the development application is essentially consistent with the county hazardous waste management plan.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

According to CEQA standards, a project would generally be considered to have a significant adverse environmental impact if it would create a potential public health hazard; involve the use, production, or disposal of materials that pose a hazard to people, animal or plant populations in the area affected; or would interfere with emergency response plans or emergency evacuation plans. For the purposes of this EIR, an impact would be considered significant if the project would:

- involve the use, handling, or disposal of materials or wastes that would pose a hazard to people, or to animal or plant populations in the area affected.
- expose area occupants or employees to working situations that exceed health standards.
- create a substantial potential public health or safety hazard due to unusual risk of accidents.
- interfere with emergency response plans or emergency evacuation plans.

- violate policies set forth in the Contra Costa CHWMP.

Significant Impacts

**Impact Hazard-1: Cleanup of hazardous materials or wastes currently in the project area could pose a threat to workers or the environment. This would be a significant impact.**

As development consistent with the updated General Plan occurs, contaminated soil, contaminated groundwater, and leaking or intact underground storage tanks (USTs) could be encountered at individual project sites. A previously unknown UST, uncovered or disturbed during excavation, could threaten the health and safety of site workers. A leaking UST could pose additional threats to groundwater resources and the environment, and could also pose a possible explosion hazard. If contamination were to remain undetected, health or safety risks could be experienced by workers or the public. (Quantitative threats to public health or safety posed by the presence of hazardous materials or wastes could be evaluated only with a formal health risk assessment.)

Site remediation measures activities to remove contamination also could have impacts. During site remediation, workers, and possibly the public, could be exposed to chemical compounds in soils, soil gases, or groundwater. The public and the environment could be exposed to airborne chemical compounds migrating from a site under remediation. Accidents during transportation of contaminated soils and/or groundwater could lead to exposure of the public and the environment to the chemical compounds. Exposure to hazardous waste could cause various short-term or long-term health effects. For particular substances, such health effects are described in detail in standard references.

Cleanup of environmental contamination is regulated and monitored by local agencies enforcing federal, State, and local laws and regulations, as described in the Setting. Risks posed by underground storage tanks would be minimized by closing the tank according to guidelines of the County Health Services Department and the local Fire Department. Problems associated with leaking underground tanks are expected to gradually diminish in the future as federal and State legislation mandating tank testing and integrity monitoring procedures have greater effect.

Soil contamination or other hazards are commonly detected by inspecting and searching public records for a subject property. That type of investigation is termed an environmental assessment or audit, and is performed independently by a California Registered Environmental Assessor



(REA). When evidence of site contamination is found, additional data can be gathered by actually sampling and testing the soil. If contamination were detected in areas to be excavated, site remediation would be necessary. Site remediation would be guided by a Site Mitigation Plan. Contra Costa County's policies and procedures for remediating contaminated sites are discussed in Chapter 11 of the CHWMP (Contra Costa County, 1989).

The major hazards-related impacts of environmental cleanup due to development associated with implementation of the updated General Plan would be beneficial over the long term.

Remediation of contaminated sites would eliminate the health threats posed by hazardous wastes and prevent workers and the public from encountering such materials in the event of any future excavation at the site. Removal of the toxic materials also would eliminate a potential local source of groundwater contamination, which would also be beneficial for the long term.

Potential impacts of remediation would be mitigated, in part, by legally required safety and hazardous waste handling and transportation precautions. These measures, along with application of clean-up standards, would serve to protect human health and the environment during site remediation, thus minimizing remediation impacts.

#### **Impact Hazard-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following mitigation measures are proposed policies and actions in the Public Safety and Related Services Element:

##### **Policy PS 1.3: Regulatory Actions**

**Action PS 1.A: Hazardous Safety Zone Map and Users Guide**

**Action PS 1.B: Information Resource Center**

#### **Impact Hazard-1: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

#### **Impact Hazard-1: Mitigation Measures Identified in this EIR**

**Hazard-1a:** At every potentially contaminated location to be developed within the City, the project applicant shall have the site inspected by a Registered Environmental Assessor

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### G. Hazardous Materials and Wastes

(i.e. a professional environmental scientist or engineer registered as an REA in California) for the presence of hazardous materials and wastes.

The investigations shall take the form of environmental audits, and shall include, at minimum, site inspections for hazardous materials, examination of historic records, and reviews of public agency records. Reports detailing the results of the inspections shall be submitted to the City for review. The report preparer shall either certify that the site is free of hazards or recommend preparation of a site mitigation plan.

The City shall make certain that inspection reports are on file prior to project approval and prior to any excavation or construction. Acceptance of the site inspection report shall allow the proposed development to proceed to the permitting stage. All activities under this mitigation shall be done in conformance with the policies and procedures presented in Chapter 11 of the CHWMP.

**Hazard-1b:** In the event that a site inspection done for Mitigation Measure Hazard-1a uncovers chemical contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes at a parcel, the inspection report preparer shall so notify the City and other agencies, as applicable, potentially including the state Department of Toxic Substances Control, the Regional Water Quality Control Board, and/or the County Health Services Department. The City would also notify the proper agencies, as required by law. Under the direction of the appropriate agencies, a site remediation plan shall be prepared by the project applicant, in accordance with applicable regulations.

The plan would (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards and (2) certify that the proposed remediation measures would clean up the wastes, dispose the wastes, and protect public health in accordance with federal, State, and local requirements. Permitting or work in the areas of potential hazard shall not proceed until the site remediation plan is on file with the City.

If a parcel is found to be contaminated to a level that prohibits the proposed use, the potential for reduction of the hazard should be evaluated. Site remediation is theoretically capable of removing hazards to levels sufficiently low to allow any use at the site. In practice, both the technical feasibility of the remediation and its cost (financial feasibility) should be evaluated in order to determine the overall feasibility of locating a specific use on a specific site. In some cases, it may be found that a site may be appropriate for any use; in other cases, a site may require restriction to industrial use or a use that involves complete paving and covering of the parcel.

In accordance with OSHA requirements, any activity performed at a contaminated site shall be preceded by preparation of a separate site health and safety plan (prepared by the project applicant and filed with the City) for the protection of workers and the public. All reports, plans, and other documentation shall be added to the administrative record. All activities under this mitigation shall be done in conformance with policies and procedures presented in Chapter 11 of the CHWMP.

**Hazard-1c:** For the Superfund site at 3002 Giant Road (American Standard Products), the City shall obtain copies of closure reports prepared by Cal-EPA certifying that the property has been remediated and poses no threats to public health. Because of ongoing cleanup

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activity under the jurisdiction of Cal-EPA, the measures identified in Hazard-1b may not be necessary for the American Standard site. This measure is included to provide assurance to the City that the site has been remediated to a level that will allow development.

**Impact Hazard-1: Significance After Mitigation**

Performance of the environmental investigations as specified, remediation of hazardous materials or wastes, if any, identified during the audits, and conformance with the policies and actions referenced would protect health and safety of site workers, the public, and the environment, and reduce this impact to a less-than-significant level.

**Impact Hazard-2: Pipelines carrying hazardous materials through the City could pose a threat to occupants or residents should adjacent areas be developed. This would be a significant impact.**

In addition to individual parcels that might be contaminated by hazardous wastes, pipelines carrying hazardous materials (natural gas and petroleum products) traverse portions of San Pablo. Federal safety regulations cover design, construction and operation of pipelines, pipeline testing and operator reporting requirements. California has a number of additional pipeline safety programs, including "one-call" programs that allow contractors, pipeline operators, homeowners and others to locate all nearby pipelines. State law prohibits building structures on pipeline rights-of-way and includes pipeline operators in the Subdivision Map review process for parcels with pipeline easements. In addition, the State Fire Marshal's Office provides maps of pipelines to local fire departments and districts.

Pipeline accidents are relatively infrequent. The chance of a failure has been estimated at about 1.3 failures per 1,000 years. Over a 16-year period, natural gas pipelines resulted in a nationwide average of eight fatalities and 32 injuries, while liquids pipelines averaged three fatalities and 16.5 injuries yearly between 1982 and 1985. One study of liquids pipeline accident records indicated that two-thirds of the deaths and three-quarters of the injuries from pipeline failures occurred within 150 feet from the point of discharge (City of Pittsburgh, 1994).

Federal and State regulations generally do not control land use near pipelines. Rather, local land use decisions govern the appropriateness of particular land uses and their proximity to others. Constraints to development on individual parcels would be analyzed on a case-by-case basis when future development proposals are submitted for City review. It should be noted that the



Federal Housing Administration does not provide financing for any structure less than 10 feet from the outer boundary of a liquids or natural gas pipeline easement (City of Pittsburgh, 1994). PG&E, which operates natural gas pipelines, does not require that development be set back farther than a pipeline right-of-way (or roadway right-of-way, where a pipeline is within a roadway) (Gross, 1995). The State Fire Marshal's Office, which regulates liquids pipelines, requires that new pipelines within 50 feet of residences, industrial buildings and "places of public assembly" be buried one foot deeper than normal (generally 30 to 48 inches), but does not prohibit such pipelines, and does not have regulations for new development adjacent to existing pipelines (Pappas, 1995).

**Impact Hazard-2: Mitigation Measures Proposed as Part of the Updated General Plan**

None identified.

**Impact Hazard-2: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

**Impact Hazard-2: Mitigation Measures Identified in this EIR**

The City shall condition approval of individual development proposals on the following mitigation measures:

**Hazard-2a:** Consistent with pipeline operators' standards, no buildings or other structures that could impede access shall be installed in any pipeline right-of-way.

**Hazard-2b:** Prior to the start of construction on any parcel that includes or is bordered by a pipeline or pipeline right-of-way or easement, the City shall consult with the Fire Protection District and the operator(s) of affected pipeline(s) regarding the adequacy of safety procedures for pipeline accidents.

**Impact Hazard-2: Significance After Mitigation**

The prohibition against construction in pipeline rights-of-way and the requirement for consultation with the Fire District regarding safety precautions would ensure that potential pipeline conflicts would be assessed on a case by case basis, and would render this impact less-than-significant.



**Impact Hazard-3: Development consistent with the updated General Plan would indirectly allow for the potential increased handling of hazardous materials and the potential increased generation of hazardous wastes by industrial and commercial facilities occupying areas of the City designated and zoned for such uses. This impact would be significant.**

Commercial businesses such as print shops, photo developers and auto repair shops use hazardous materials and generate hazardous wastes, as do businesses engaged in retail and transport. As described in the Setting, San Pablo has relatively few industries that handle hazardous materials when compared with neighboring communities. Development of the parcels as planned would broaden the City's commercial and, to a much lesser extent, industrial base, which in turn could result in increased handling of hazardous materials by business. Because of the limited new industrial use anticipated, the increase would be expected to be relatively small. However, because it is not known whether new installations that might be developed in the City would have safety procedures and permits in place, this impact is considered to be significant.

The number of potentially hazardous chemicals used in commerce and industry is very large. With the types of business activity anticipated, hazardous materials and wastes typically encountered can be identified and discussed in a generic manner to describe, via example, the range of hazards that might be encountered. Hazardous properties are categorized into four types: toxic, ignitable, corrosive and reactive; many hazardous chemicals have properties that cause them to qualify for more than one category. Examples of typical hazardous substances used in the project area include sulfuric acid (toxic, corrosive and reactive); solvents such as acetone (ignitable), benzene (toxic and ignitable), and chlorinated hydrocarbons (toxic); and solid wastes containing lead compounds (toxic), sodium hydroxide (toxic, corrosive and reactive), and chlorinated phenols (toxic). Within the hazard categories, many chemicals pose special dangers due to tendencies to bioaccumulate in living tissue, or to generate toxic fumes when exposed to fire, or to cause cancer and birth defects.

**Impact Hazard-3: Mitigation Measures Proposed as Part of the Updated General Plan**

The following mitigation measures are proposed actions in the Public Safety and Related Services Element:

**Action PS 1.L: Hazardous Materials Transport**

**Action PS 1.D: Update the Multi-Hazard Functional Plan**

**Impact Hazard-3: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

**Impact Hazard-3: Additional Mitigation Measures Identified in this EIR**

The City shall condition approval of individual development proposals on the following mitigation measures:

**Hazard-3a:** The City shall ensure that use, storage, and handling of hazardous materials by businesses and industries within the project area is done in compliance with applicable City policies as well as and State and local laws, guidelines, and regulations. (This measure could be implemented through the City's permitting process and/or inspection mechanisms.)

**Hazard-3b:** Residents adjacent to new hazardous materials handling facilities shall be notified immediately by the City emergency response organizations of any accidental occurrences such as spills, leakages, or eruptions which may affect the health, safety and welfare of the public. (This measure could be tied into the City's updated Multi-Hazard Functional Plan.)

**Hazard-3c:** New businesses in the project area shall be required to install their temporary hazardous waste storage areas on paved, impermeable surfaces with drainage controls and spill containment features.

**Hazard-3d:** Waste stored temporarily at generator facilities shall be segregated by hazard category and stored in individual, sealed storage containers. Separate containers shall be used for flammables, acids, bases, poisons, and reactive wastes.

**Impact Hazard-3: Significance After Mitigation**

Implementation of the above mitigation measures would protect the health and safety of residents, occupants, and the environment by implementation of inventory requirements for hazardous materials, ensuring proper storage, handling, and disposal requirements for hazardous materials and hazardous waste, and providing for proper emergency response notifications in the event of accidental occurrences such as spills, leakages, or eruptions that may affect the health, safety and welfare of the public. Implementation of these measures would reduce the identified impact to a less-than-significant level.

Less-Than-Significant Impacts

A potential impact related to the increased population under the updated General Plan would be an *increase in the generation, storage, and disposal requirements of household hazardous wastes*. (It should be noted that the population of San Pablo is expected to increase without the updated General Plan, so that the household hazardous waste impact could occur in any case.) A household hazardous waste is any waste generated by households that can cause illness or death, or pose a threat to health or the environment when improperly stored, disposed, or otherwise managed. State and local jurisdictions have been moving gradually to implement proper control and disposal of household hazardous wastes. State legislation, AB 939, requires municipalities to reduce their waste streams and also encourages acceptance and treatment of household hazardous wastes by waste handling facilities. Establishment of permanent collection centers or periodic collection events at temporary locations are the most common methods for gathering household hazardous waste for disposal other than through the municipal garbage collection system. Contra Costa County actively encourages proper disposal of household hazardous waste. The *Contra Costa CHWMP* calls for continued development of effective programs to reduce generation of household hazardous waste and to manage household hazardous waste, including proper collection and disposal. San Pablo also has a Household Hazardous Waste Element, as described in the Setting. For these reasons, this impact would be less than significant.

Another potential concern is *the location of hazardous materials adjacent to sensitive receptors*. Hazards to project occupants and residents could occur if industries or businesses using hazardous materials were to be situated too close to sensitive receptors such as residences, schools, or sensitive open space or recreation areas. Potential land use incompatibilities would be most likely to occur at various locations around the City where residential neighborhoods may already be in place or where residential developments might be planned at some future date. Action PS 1.N of the proposed Public Safety and Related Services Element, however, would require that the City, through the Zoning Ordinance or conditional use permits, require new facilities which use or produce hazardous materials to locate along major transportation routes and away from schools, residences and places of public assembly. As stated further in Action PS 1.N, this facility planning process would include comprehensive regulatory and permitting standards and conditions for different types of industrial uses. For these reasons, this impact would be less than significant.



Another potential impact would be potentially hazardous existing installations in the project area that could pose a threat to occupants or residents should adjacent areas be developed. As noted in the Setting, however, San Pablo has relatively little heavy industry and few contaminated properties. Cleanup of contaminated properties and associated hazards are addressed under Impact Hazard-1. The Bay Area Air Quality Management District lists only four properties in San Pablo under its Toxic Air Contaminant Control Program, as is discussed in Section IV.K., Air Quality. Thirty-two properties in neighboring Richmond are listed by the BAAQMD; these are part of the existing setting. Potential Air Toxics impacts are evaluated under Section IV.K of this EIR. The project would not rearrange the pattern of residential neighborhoods in San Pablo in a major way relative to the City of Richmond. In the absence of any information other than Air Toxics that suggests that existing installations in nearby Richmond pose a significant health and safety risk to persons in San Pablo, this potential concern is considered less-than-significant.

Another potential concern is *increased transport of hazardous materials and wastes*, which could result in greater potential for accidents involving hazardous materials. Data on hazardous waste transport within the County is presented in the CHWMP, where Contra Costa County's policies regarding transportation of hazardous materials and wastes, including emergency response procedures, are discussed (Contra Costa County, 1989). Table 10-A in the CHWMP presents data on accident rates in the County. Hazardous waste haulers have very low accident rates, but an accident involving hazardous materials or wastes during vehicular transport could result in any of the following: (1) direct exposure of motorists and emergency responders (*i.e.*, firefighters, highway patrol officers, ambulance workers, paramedics, Caltrans workers, etc.) to hazardous materials, resulting in acute and chronic health effects; (2) contamination of the roadway and surrounding environment due to uncontained runoff from the incident; (3) exposure of residents and other occupants of surrounding areas to increased health risks as a result of a gaseous materials release; and (4) damage to the environment and structures and injury to humans as a result of a fire associated with a hazardous materials release.

Implementation of the updated General Plan might marginally affect the probability of an accident occurring or the actual frequency of accidents, but would not change the type of accident that might occur. Since hazardous material packaging and transportation requirements are stringent and since accident rates involving hazardous materials are very low, this impact would not be significant even without the precautions in the proposed Public Safety and Related Services Element, as follows.



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Action PS1.L, Hazardous Materials Transport, of the proposed Public Safety and Related Services Element would require that the City specify transportation routes for hazardous materials to minimize the possibility of casualties and property damage in the event of mishap and to restrict temporary parking or storage of hazardous materials vehicles. The City will condition approval of individual development proposals on provisions of Action PS1.L, which would require that for each specific project that would generate hazardous waste, the project sponsor would prepare a hazardous material transportation program that would designate either (1) specific routes to be used for transport of hazardous materials and wastes to and from the facility, or (2) specific routes to be avoided during transport of hazardous materials and wastes to and from the facility. Routes would be selected to minimize proximity to sensitive receptors to the greatest practical degree. The City would review and approve the applicant's hazardous material transportation program or, working with the applicant, modify it to the satisfaction of both parties.

Another potential concern would be potential exposure of City occupants to hazardous material upsets from train accidents. A hazardous materials release incident resulting from a rail transport accident might expose residents to hazardous substances with subsequent ill effects. There is very little chance, however, of a rail accident occurring on the tracks adjacent to San Pablo that would harm persons or property not involved directly with rail transport. Based on accident data, the railroad accident rate in California is approximately 3.5 accidents per mile of track per 100 years, or 0.035 accidents per mile per year (City of Pittsburg, 1994). The City has about 11,000 feet or roughly 2 miles of frontage on the SP railroad right-of-way. On the basis of these facts, therefore, there would be a risk of about 7 accidents per 100 years on the stretch of track next to the San Pablo. Further, not all of accidents would involve release of hazardous materials. Because only about 0.15 percent of all rail accidents in California result in evacuations of adjacent properties (City of Pittsburg, 1994), the chances that there would be an accident that would threaten the health and safety of project area occupants to a degree that would require evacuation are very small -- roughly one evacuation per 100 years would be predicted.

Southern Pacific has an Emergency Response Plan in place to respond to a hazardous materials emergency (Southern Pacific, undated). The Emergency Response Plan covers actions to be taken in response to four types of accidents involving hazardous materials: (1) train derailment with no release of hazardous materials, (2) derailment with serious release of hazardous materials, (3) leak of hazardous materials in non-derailment conditions, and (4) releases of

hazardous materials not involving the railroad but near enough to the railroad to affect SP employees, public health, the environment, or SP's ability to operate. The SP Emergency Response Plan covers all aspects of system preparedness and response actions in the event of an emergency. On the basis of this analysis, the overall risk would be relatively low, and potential impacts to City occupants due to train accidents involving hazardous materials are considered less than significant.

#### Cumulative Impacts

Generation of hazardous waste by new industries in the project area (as discussed under Impact Hazard-3) would add to cumulative hazardous waste disposal requirements in the County (the geographic area considered for this cumulative impacts analysis). Cleanup and disposal of any contaminated soils within the project area (as discussed under Impact Hazard-1) would contribute to the cumulative burden on existing landfill storage capacity. This would be a less-than-significant impact because hazardous wastes generated by industries in San Pablo would not cause a threat to public safety; hazardous wastes resulting from the project would be recycled for reuse, treated to be made nonhazardous prior to final disposal, or otherwise disposed properly with other wastes generated in the City and County. A related potential cumulative impact could be exposure to increased hazards from cumulative development of hazardous waste-handling industries in neighboring Richmond. The potential impact of hazardous materials (associated with new development) on sensitive receptors was addressed in the Program EIR for the City of Richmond General Plan and Zoning Ordinance Updates, and was determined to be mitigated to a less-than-significant level by policies, implementation programs, and regulations included in the updated General Plan and Zoning Ordinance (City of Richmond, 1993). These measures included (among others) the location of industrial uses so as to ensure land use compatibility; establishing performance standards to govern industrial facilities in order to safeguard residential and other land uses; and zoning provisions regarding hazardous materials, fire hazard standards, and liquid or solid waste standards.

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REFERENCES - Hazardous Materials and Wastes

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City of San Pablo, *Economic Development Strategy Plan*, October 1993.

City of San Pablo, *General Plan*, Land Use Element, October, 1980.

City of San Pablo, *General Plan*, *Public Safety Element*, May, 1976.

City of San Pablo, *Household Hazardous Waste Element*, January 6, 1992.

City of Pittsburg, Draft Environmental Impact Report, The Brickyard subdivision, prepared by Donaldson Associates, September 9, 1994.

Contra Costa County, *Final County Hazardous Waste Management Plan*, Contra Costa County Community Development Department, June 1989.

Eller, John, City of San Pablo, et al., memorandum, August 30, 1995.

Gross, Robert, Director of Gas Distribution, Pacific Gas & Electric Co., telephone conversation, June 2, 1995.

Korve Engineering, Inc., *BART West Contra Costa Extension Alignment Study*, Task 7: Draft Environmental Screening Report, with Linda Peirce Associates, July 1992.

Pappas, Linda, Deputy State Fire Marshal, telephone conversation, June 2, 1995

Southern Pacific Transportation Company, Hazardous Materials Emergency Response Plan.

ADDITIONAL REFERENCES

California Code of Regulations, Title 22, Division 4.5 "Environmental Health Standards for the Management of Hazardous Wastes," Chapter 11, Article 2, Section 66261.10 -- Criteria for Identifying the Characteristics of Hazardous Waste.

California Code of Regulations, Title 22, Division 4.5 "Environmental Health Standards for the Management of Hazardous Wastes," Chapter 11, Article 3, Sections 66261.20-24.

California Office of Emergency Services, *Guidance for the Preparation of a Risk Management and Prevention Program*, Hazardous Materials Division, November 1989.



## **H. CULTURAL RESOURCES**

### **SETTING**

The following section characterizes cultural (archaeological and historical) resources within the City of San Pablo. A brief historical review of the San Pablo region is also provided as a frame of reference for various cultural resources described.

#### **Pre-History and Native Americans**

The western edges of Contra Costa and Alameda Counties have long been regarded as an important locale for investigations of northern California prehistory. The Richmond shoreline was an excellent location for long-term, prehistoric settlement. The immediate environs provided a plentiful, diversified and easily exploited supply of floral and faunal foodstuffs. The year-round weather was reasonable and the many creeks and springs provided a steady water supply. Recent archaeological investigations for the U.S. Army Corps of Engineers led to the discovery of previously unknown prehistoric sites along San Pablo Creek (City of Richmond, 1993).

At the time of historical contact (circa 1769 A.D.) with Europeans, the East Bay was occupied by the Costanoans, a term which designates a people as well as a linguistic family consisting of eight language groups. The Costanoans who inhabited the western part of present-day Contra Costa and Alameda Counties spoke the Chochenyo language and were organized into six ethnic societies or tribelets. San Pablo lies within the xucyun or Huchiun tribelet territory; its borders are defined by the San Francisco Bay on the west, Rodeo Creek in the north and Temescal Creek in the south. Although the eastern boundary is vague, the Huchiun are believed to have inhabited all the land within the present-day cities of Richmond, San Pablo and El Cerrito (City of Richmond, 1993).

#### **Spanish Period (1769-1822)**

The Spanish first encountered the Huchiun in present-day Marin County in 1775. In the spring of 1776, Spanish settlers arrived in Monterey, California, from Sonora, Mexico, under the command of Juan Bautista de Anza. By the fall of that year, de Anza built Mission Francisco de Asis (Mission Dolores) on a settlement site at the northern end of the San Francisco peninsula (City of Richmond, 1993).



#### IV. Environmental Setting, Impacts and Mitigation Measures

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While early "converts" appear to have come from the villages surrounding the mission, throughout the late- 1770s and 1780s the Spanish began forcing Costanoan people into the mission system from dozens of locations throughout the San Francisco Peninsula. Although only small groups of East Bay natives were affected by this practice, by 1794 the situation changed and large numbers of Huchiun began to appear in the mission's baptismal records.

By 1800 several food-producing outposts supervised by the missions were founded throughout the Bay Area. Between 1813 and 1817, the Mission Dolores priests established Rancho San Ysidro, in the former Huchiun territory, using the entire plain south from San Pablo to Emeryville for plantings and sheep pasture (City of Richmond, 1993).

##### Mexican Period (1822-1848)

Throughout the Spanish era most of the land of Alta California remained under sovereign domain; it was not until the Mexican period that the government systematically began granting large parcels of land to individuals. Sixteen such land grants were issued in Contra Costa County, including the 17,939-acre Rancho San Pablo (City of Richmond, 1993).

In 1823, Francisco Maria Castro applied for and was provisionally granted the lands of Mission Dolores' Rancho San Ysidro (Rancho San Pablo) by Governor Louis Arguello. The borders of Castro's Rancho San Pablo extended from Pinole Creek in the north, the first ranges of the San Pablo Hills in the east, Cerrito Creek in the south and the San Francisco Bay in the west.

For nearly twenty years, the Castro family lived in the former Ranch San Ysidro headquarters, located between San Pablo and Wildcat Creeks in the present-day City of San Pablo. During the late 1830s, Don Francisco's son, Juan Jose, constructed his house in the present-day unincorporated community of North Richmond, on the north bank of Wildcat Creek between 5th and 6th Streets. Damaged during the 1856 earthquake, the adobe was in ruins by 1860.

By 1842 a new Castro family home had been constructed between Wildcat and San Pablo Creeks at the present-day intersection of San Pablo Avenue and Church Lane in the city of San Pablo. California Historic Landmark plaque No. 512 marks the location and the 1978 reconstruction of this Mexican-era adobe at Alvarado Square (City of Richmond, 1993).

#### American Period (1848-present)

After the signing of the Treaty of Guadalupe-Hidalgo in 1848, California became part of the United States. In 1851, under the Gwin Act, a commission was established to settle disputes arising over the validity of Mexican land grants (City of Richmond, 1993).

In 1852, Joaquin Castro asked the Commissioners to verify family ownership of Rancho San Pablo; title to the Rancho was not cleared until 1894. During the more than forty years, newcomers settled on the Rancho, rustling cattle and staking-out homesteads.

The Americans who settled on Rancho San Pablo land during the second half of the nineteenth century engaged in the tallow, hide and cattle trade, much like the Mexican ranchers before them, while wheat farming became the principle agricultural pursuit throughout Contra Costa County. The population explosion following the Gold Rush made San Francisco a ready market for East Bay grain, which was shipped from Point Isabel in Richmond and later from Ellis Landing.

During World War II four naval shipyards and related industrial uses were operating in the Bay Area, including one in Richmond. The San Pablo and Richmond area experienced a rapid increase in population as a result of these wartime industries. After the end of World War II the City of San Pablo incorporated in 1948.

#### Records Search

Cultural resources include archeological and historic resources. For purposes of this EIR, historic resources are associated with events that occurred after the first European contact with Native Americans. A records and literature search was conducted for cultural resources in the City of San Pablo. The records search revealed a number of cultural resources, including: 6 recorded archeological sites (generally near creeks within the City) and 14 historical resources listed on either local, State, or federal listings (Compass, 1995). Historic resources listed on the Contra Costa County Historic Resources Inventory for the City of San Pablo are shown in Table D-1 in Appendix D. One historical resource, 1901 Church Street "Old Rectory," was listed by the State Office of Historic Preservation and is not included in the County inventory.

#### Historical/Archaeological Preservation Element Study

The City of San Pablo initiated this study in 1979 "in order to mitigate the impacts of growth and development on prehistoric and historic cultural resources within the municipality" (City of San Pablo, 1979). The study focused on identifying and evaluating the significance of cultural resources in the City and developing recommendations for preserving and managing the resources. An evaluation of 4,193 structures for historical significance was conducted; 41 of those structures were determined to be historically and/or architecturally significant. (A map which shows the location of those structures is included in Appendix D.) San Pablo's known archaeological resources are identified by maps on file with the City.

#### Regulatory and Policy Framework

The Open Space and Conservation Element of the current *General Plan* refers to one policy related to cultural resources:

##### 3. Environmental Management Programs

Many of the policies recommend that certain management techniques be followed to ensure that future development will not damage the environment. These policies can be divided into [four] categories:

- d. *Recreational and Cultural Resources.* The Element recommends that the cities of West Contra Costa County participate jointly in determining standards for neighborhood; community, and regional parks; that public transportation be provided to the parks; that regional trails be provided; *that archaeological sites be protected*; and that the scenic features of the area be preserved. [emphasis added]

Cultural resource promotion is part of the City's strategy for economic development as presented in the "Economic Development Strategy Plan." Strategies include the promotion of San Pablo's resources as a tourist destination, distribution of informational brochures, and sponsorship of city-wide historical and cultural events.

As noted previously, not all of the City has been mapped and identified for archaeological sites. The City has an ongoing policy of checking areas scheduled for new development.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project would normally be considered to have a significant adverse impact on the environment if it would disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as part of a scientific study. For purposes of the updated General Plan, potentially significant environmental impacts are considered to be present when the proposed land use designations represent a change from the historic use of a property or structure, permit alterations to the historic character, or disturb prehistoric subsurface or cultural deposits during excavation.

### Impacts

**Impact Cultural-1: Development consistent with the updated General Plan could result in damage to known or unknown prehistoric or historic archaeological resources. This would be considered a significant impact.**

According to the literature review, six recorded archeological sites exist within the City. Development consistent with the updated General Plan could affect these or other archeological resources. Development in the City could result in disruption or have adverse effects on archaeological resources where construction involves land alteration activities (such as clearing vegetation, grading, driving heavy vehicles, soil compacting, and landscaping).

### **Impact Cultural-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The following mitigation measures from the Environmental Resources Management Element of the updated General Plan would facilitate preservation of archeological and prehistoric sites:

**Cultural Resources- Policy ER 1.31: Cultural Resources Protection**

**Cultural Resources- Policy ER 1.32: Historical/Archaeological Preservation Element Study**

**Impact Cultural-1: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***



IV. Environmental Setting, Impacts and Mitigation Measures  
H. Cultural Resources

None identified.

**Impact Cultural-1: Additional Mitigation Measures Identified in this EIR**

**Cultural-1a:** The City shall condition approval of individual development proposals in areas known to have cultural resource potential (as identified on the maps on file with the City) and incorporate the following mitigation program (which shall be conducted under the guidance of Appendix K of the *CEQA Guidelines*):

- Prior to excavation and construction, the prime construction contractor and any subcontractor(s) would be cautioned on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts, human remains, bottles, and other cultural materials from the project site.
- The project sponsor would identify a qualified archaeologist prior to any demolition, excavation, or construction in areas known to have cultural resource potential. The City would approve the project sponsor's selection for a qualified archaeologist. The archaeologist would have the authority to temporarily halt excavation and construction activities in the immediate vicinity (ten-meter radius) of a find if significant or potentially significant cultural resources are exposed and/or adversely affected by construction operations.
- Reasonable time would be allowed for the qualified archaeologist to notify the proper authorities for a more detailed inspection and examination of the exposed cultural resources. During this time, excavation and construction would not be allowed in the immediate vicinity of the find; however, those activities could continue in other areas of the project site.
- If any find were determined to be significant by the qualified archaeologist, representatives of the project sponsor, the City, the qualified archaeologist, and a representative of the Native American community (if the discover is an aboriginal burial) would meet to determine the appropriate course of action.
- All cultural materials recovered as part of the monitoring program would be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.

**Cultural-1b:** If previously unknown subsurface cultural resources are discovered during excavation activities in areas of the City of San Pablo not covered by Mitigation Measure Cultural 1-a, excavation would be temporarily halted and an archaeologist consulted as to the importance of the resources. Should the archaeologist determine that the resources are important, the project sponsor would follow the procedure described in Cultural-1a, above.

**Impact Cultural-1: Significance After Mitigation**

Implementation of the above measures would mitigate the impact to a less-than-significant level, because archaeological resources would be preserved and/or appropriately documented.

**Impact Cultural-2: Development consistent with the updated General Plan could result in damage to known historical resources. This would be considered a significant impact.**

As discussed above, the City of San Pablo has 14 historical resources listed on either local, State, or federal listings. Although policies in the updated General Plan encourage and promote historic preservation within the City, it is possible that development in the City could result in the alteration or demolition of historical resources.

**Impact Cultural-2: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions are in the Environmental Resources Management Element of the updated General Plan, and can serve as mitigation measures:

**Policies ER 1.31 and 1.32 discussed above (see Impact Cultural-1)**

**Cultural Resources - Action ER 1.W: Identification of Significant Resources**

**Cultural Resources - Action ER 1.X: Local Heritage Program**

**Cultural Resources - Action ER 1.Y: Native American Resources**

**Action ER 1.Z: Local Historical Register**

**Action ER 1.AA: Project Impact Criteria**

**Action ER 1.BB: Resource Site Acquisition**

**Action ER 1.CC: Availability of Historical Information**

**Action ER 1.DD: Alvarado District Specific Plan**

**Action ER 1.EE: Historic Resource Inventory**

**Impact Cultural-2: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

**Impact Cultural-2: Mitigation Measures Identified in this EIR**

**Cultural-2:** The City shall incorporate the following action into the Environmental Resources Management Element of the updated General Plan:

In the event that a federally- or State-listed historical property cannot be avoided or relocated in the development of a site, the City shall conduct an "Historic American Building Survey" for the structure. Such a procedure involves the precise recording of the structure through measurements, drawings, and photographs. The documentation of the resource is on standardized forms and is accurate in detail to such an extent that after

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### H. Cultural Resources

demolition, the historical structure could be reconstructed from the survey data. Copies of the documents should be filed with all appropriate agencies.

#### **Impact Cultural-2: Significance after Mitigation**

The mitigation measures found within the updated General Plan would reduce the impact to a less-than-significant level because records would be kept on historic resources, the City would plan for the preservation of structures identified as significant, projects would be reviewed with respect to established criteria for potential impact to historic resources, and resources would be properly recorded if they could not be avoided.

#### REFERENCES - Cultural Resources

City of Richmond, "City of Richmond General Plan and Zoning Ordinance Updates: Program Environmental Impact Report," prepared by Environmental Science Associates, August 17, 1993.

City of San Pablo, *Historical/Archaeological Preservation Element Study of the City of San Pablo*, prepared by Gerald Sam, November, 1979.

Compass, Lynn, Researcher II, Sonoma State Historical Resources Information System, letter - July 20, 1995, telephone conversation- July 26, 1995.

## **I. HYDROLOGY, FLOODING, AND WATER QUALITY**

### SETTING

#### Hydrology

##### Watercourses

The City of San Pablo is located within three watersheds, identified (north to south) as Rheem Creek, San Pablo Creek and Wildcat Creek. Each creek trends in a roughly westerly direction across the city. In addition to the three creeks, there is an unnamed drainage at the northern end of San Pablo that also trends in a westerly direction.

*Rheem Creek* is a small intermittent stream with a small watershed under two square miles confined to the Bayview District and northern part of the Rumrill and Sheffield District. It is channelized for approximately 50 percent of its length in San Pablo.

*San Pablo Creek* is a perennial (year-round) watercourse and *Wildcat Creek* is an intermittent stream. Both creeks are almost entirely open channels (culverts in only five percent of the channel) in a natural state. Wildcat Creek is included as part of a riparian corridor and regional trail system in the current *General Plan*. Both Wildcat Creek and San Pablo Creek have their headwaters in the hills east of San Pablo. San Pablo Creek is the larger watercourse, draining an area of approximately ten square miles. It is regulated in the upper watershed by two dams: Briones Dam and Reservoir, and San Pablo Dam and Reservoir. Wildcat Creek is largely unregulated; two small impoundments (places where the water is confined), Jewel Lake and Lake Anza, are located in Tilden Regional Park. Wildcat Creek has a drainage area of approximately eight square miles. The City occupies only the lower portions of both watersheds. Within the City of San Pablo, the two creeks parallel one another, and are as close as 500 feet apart at one point. No impoundments on any of the creeks occur within San Pablo.

All three watercourses have open channels within the City. Stream courses in San Pablo are maintained by the City, with debris clearing and repair of erosion control devices generally occurring in August in advance of the flood season (Federal Emergency Management Agency, 1993).

No lakes or large water bodies exist within the City.



## IV. Environmental Setting, Impacts and Mitigation Measures

### I. Hydrology, Flooding, and Water Quality

#### Precipitation and Runoff

Average annual precipitation in San Pablo is 20 inches, and 22 to 26 inches in the upper watersheds east of the city (Rantz, 1971). As is typical throughout California, a wide range in annual precipitation is characteristic from year to year. In addition, precipitation is strongly seasonal in nature. Generally, approximately 90 percent of the precipitation is received in the November - April period (Rantz, 1971). The rainy period is typically characterized by a series of frontal storms advancing east from the Pacific Ocean and lasting from three to six days. Summers are typically dry. Occasional thunderstorms occur in the spring, summer and early autumn, but are relatively infrequent.

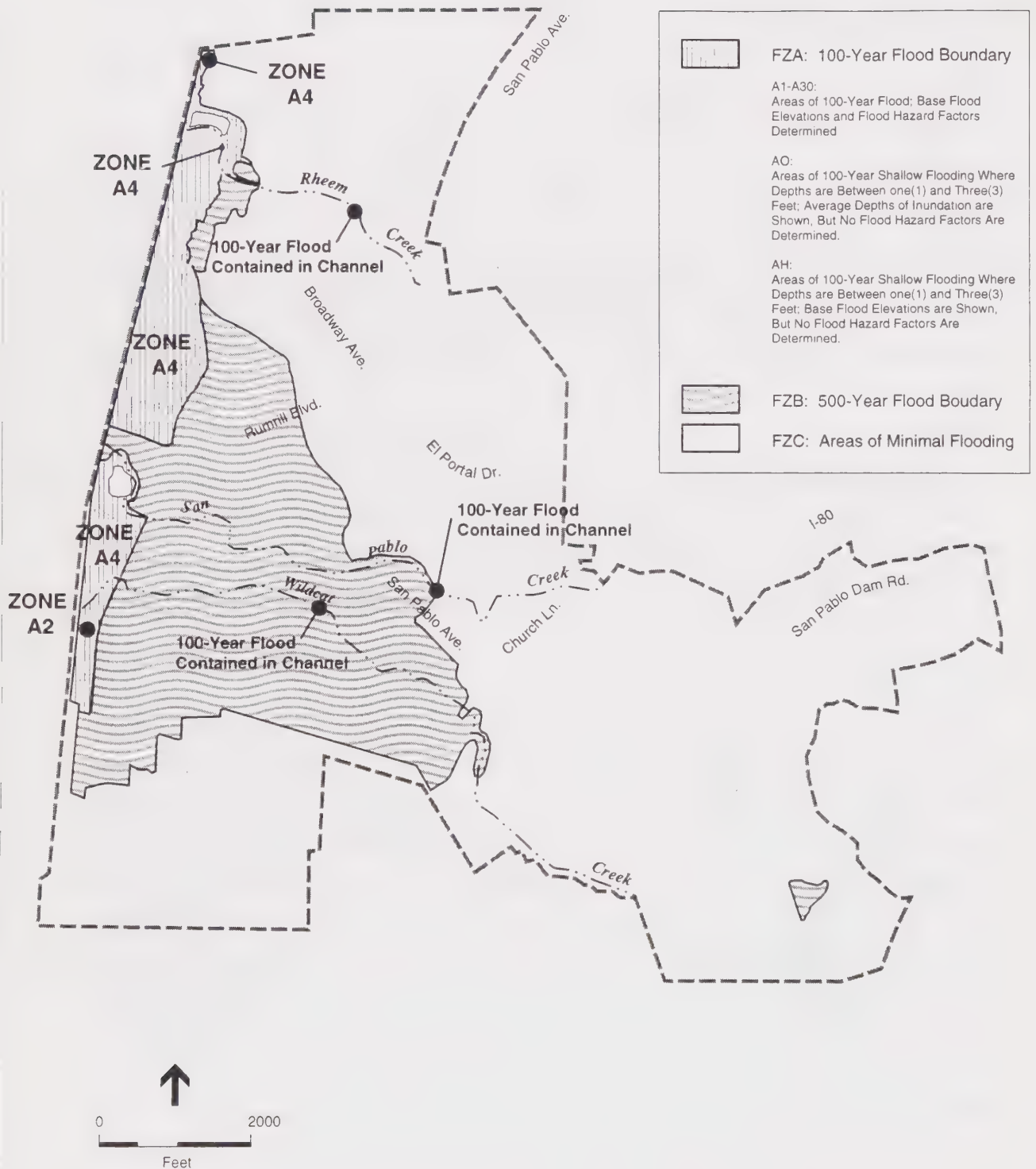
Runoff in the hills is relatively rapid because of steep slopes and clay soils. Runoff from the flat lowlands is slower because of gentle slopes. Runoff flows into the City streets, is collected in storm drains and is discharged to the creeks. Some infiltration into the ground occurs, but because the City is largely developed with a high proportion of impermeable surface (surfaces that do not allow the water to pass through, such as buildings, streets and parking lots), runoff is relatively high.

#### Flooding Hazard

Areas along the three creeks draining San Pablo are subject to flooding. Figure IV.I.1 shows the creeks and flood hazards within the City. Severe storms occurred in December 1955 and October 1962 (Federal Emergency Management Agency, 1993). During recent storm events (1993 and 1995), lower Wildcat Creek overflowed and flooded the Folsom Avenue area; parts of Old Town also flooded, because of stormwater pipe backups (Ho, 1995a). Upstream of I-80 and in most areas west of I-80, flood flows are contained within the banks of San Pablo and Wildcat Creeks. West of a line extending south from about 12th Street in the Bayview District, flood inundation areas of the 100-year flood<sup>1</sup> include areas along Wildcat and San Pablo Creeks that encompass the western portions of the Central, El Portal, Old Town and Rumrill and Sheffield Districts (Figure IV.I.1). Flood-prone areas also are present along Rheem Creek in the

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<sup>1</sup> The 100-year flood is the event with a one percent chance of occurring or being exceeded in a given year, or a flood that has a probability of being exceeded once in 100 years, on average.



SOURCE: Federal Emergency Management Agency;  
Environmental Science Associates

— San Pablo General Plan Consulting Services / 950160 ■

**Figure IV.I.1**  
**Creeks and Flood Hazards**

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

## IV. Environmental Setting, Impacts and Mitigation Measures

### I. Hydrology, Flooding, and Water Quality

southern part of the Bayview and northern edge of the Rumrill and Sheffield Districts (Limerinos, *et al.*, 1973; Federal Emergency Management Agency, 1993).

Flooding is characterized by water overflowing the banks of San Pablo, Wildcat and Rheem Creeks and moving parallel to or away from the creeks along the City road system. During flooding, water drains in the streets in a westward direction until reaching the Atchison, Topeka and Santa Fe Railroad (AT&SFR) tracks along the western border of the City. The culvert and channel system through the railroad trestle is inadequate to pass peak flood flows, forcing water to pond on the upstream side of the tracks. The City has a channel maintenance program intended to keep debris from collecting near the culverts and channels. The Army Corps of Engineers is currently improving the peak water flows at lower Wildcat Creek, starting at the railroad trestle channel and continuing west out of the City limits (Ho, 1995a).

San Pablo Creek and Wildcat Creek have 100-year discharges of over 3,000 cfs (Federal Emergency Management Agency, 1993). Flows in excess of 2,000 cfs in San Pablo Creek and in excess of 900 cfs in Wildcat Creek will cause flooding (City of San Pablo, 1976). Many homes in San Pablo are constructed with the floor level at the ground surface and lacking sufficient elevation to be above even shallow flooding (City of San Pablo, 1976). The principal flooding problem exists near the western edge of the City where flows of San Pablo, Wildcat and Rheem Creek are limited by passage under the AT&SF railroad tracks, as noted.

Rheem Creek was recently restudied by FEMA. The creek was designed to contain flows of 800 cfs, which is a 30-year event, at Giant Road (Federal Emergency Management Agency, 1993). The 100-year discharge of Rheem Creek is 1,080 cfs; therefore, the creek floods under large storm events (Federal Emergency Management Agency, 1993). Additionally, overland 100-year flood flows of 600 cfs from San Pablo Creek travel toward Rheem Creek, adding to ponding behind the railroad tracks. Flooding is expected to be shallow, between one and three feet (Federal Emergency Management Agency, 1993). The area is largely industrial.

#### Groundwater

Groundwater transmissivity (flow rate capability) is variable across the City. The bedrock and thin soils of the hill areas are poor sources of groundwater. Much of the alluvium that underlies the lowland areas of the City is capable of transmitting groundwater. Beds of varying transmissivity characteristics are present within the alluvium. Where gravel and coarse sand



#### IV. Environmental Setting, Impacts and Mitigation Measures

##### I. Hydrology, Flooding, and Water Quality

materials are abundant, the beds have good transmissive characteristics both for downward percolation of water and lateral migration. Where a bed of such character is saturated, it is called an *aquifer*. In general, several aquifers are present in the alluvium apron surrounding San Francisco and San Pablo Bays (Helley *et al.*, 1979).

Few data are available on the depth of groundwater. The low elevation of most of San Pablo and the location in the flood plain of San Pablo and Wildcat Creeks provide conditions conducive to relatively high groundwater, especially in areas near the streams. The groundwater table is likely to be at a depth of approximately 10 to 15 feet below ground surface in areas near water courses (as confirmed in recent borings by Harding Lawson Associates, 1990).

Recharge (percolation back to the water table) probably is concentrated in the immediate near-stream areas where open space is present. In the upper horizons (planes of similar rock materials or layers of unconsolidated material and soil) of the geologic profile, the materials are seasonally saturated (Helley, *et al.*, 1979). The infiltration rate is generally expected to be high in stream channel deposits and sand, moderate in coarse-grained Holocene alluvium and Pleistocene deposits, and low in the fine-grained Holocene deposits (see Section II.E, Landform, Geology, Soils and Seismicity). In general, the western parts of the lowlands contain fine-grained, poorly sorted geologic materials with relatively low infiltration, and a relatively high groundwater table. The eastern parts of the lowlands in the City are underlain by coarser grained, moderately sorted deposits with high infiltration, and are generally well drained with a low groundwater table (Helley, *et al.*, 1979).

Groundwater flow probably occurs in a westerly direction, following the general drop in elevation toward San Pablo Bay. Given the nature of geologic materials in the area, locally perched groundwater (areas where percolation to the water table may be obstructed by the presence of impermeable rock) also may be present.

Little use is made of groundwater in San Pablo. The City receives its potable water from the East Bay Municipal Utility District (EBMUD). That water supply is derived from San Pablo Reservoir.



## IV. Environmental Setting, Impacts and Mitigation Measures

### I. Hydrology, Flooding, and Water Quality

#### Water Quality

Groundwater under most of the City probably is of good quality. Contamination may be present in areas with existing or former industrial uses and areas of unconfined waste disposal. These mostly are present in the industrial western part of the City. Elevated lead in groundwater has been identified at and south of a former waste disposal site along Rheem Creek (Department of Health Services, 1989), although subsequent borings did not confirm elevated lead contamination on the site (Harding Lawson Associates, 1990). Contamination was not reported to be entering Rheem Creek.

Few data are available on water quality in creeks in San Pablo. Pollution in the creeks would come from point and non-point sources (both within San Pablo and in communities upstream of the City). Point sources consist mostly of effluent discharges from industrial facilities, and are regulated under the Clean Water Act (The Federal Water Pollution Control Act of 1972) through discharge permitting requirements as set forth under the National Pollutant Discharge Elimination System (NPDES). An NPDES permit has been required for every point source of pollution discharging into watercourses. Specific waste discharge requirements are established in each NPDES permit. The NPDES permit requirements are mandated by the State of California Water Resources Control Board and Regional Water Quality Control Board, and in San Pablo specifically by the San Francisco Bay Regional Water Quality Control Board. As a result of the NPDES permitting system, substantial improvement in surface water quality has occurred throughout the Bay Area.

Pollution from non point sources has been more difficult to manage. These sources include general pollutants entrained in runoff from streets, open areas, and urban lands in which runoff is not collected and directed into a wastewater treatment plant. As is typical of urban areas, non point pollution is likely to come from fairly common sources including sediment, trash and debris, metals, salts, hydrocarbons, volatile organic compounds, grease and oils, bacteria, herbicides and pesticides, and fertilizers. Industrial areas may include a variety of other toxic and hazardous substances as well. San Pablo is a highly developed area, and major pollutant source areas include vehicle-accessible points along Wildcat Creek, industrial areas along Giant Road, large parking lots at two commercial centers, and San Pablo Avenue, 23rd Street, and Rumrill Boulevard (Woodward-Clyde, 1993).

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### I. Hydrology, Flooding, and Water Quality

The executive officer of the San Francisco Bay Regional Water Quality Control Board on April 12, 1991 determined that Contra Costa County, the Contra Costa County Flood Control District and all cities in Contra Costa County are significant contributors of pollutants to the waters of the United States, and must develop and implement a Stormwater Management Program to comply with the 1987 amendments of the Clean Water Act and regulations promulgated by the U.S. Environmental Protection Agency (40 CFR Part 122). The regulations require that municipalities and urbanized counties with separate storm drainage facilities (i.e., storm drains that are not combined with sewage systems and directed to a treatment plant) obtain a NPDES permit. As a consequence, the City of San Pablo joined the County and 17 other incorporated cities in the County to create the Contra Costa Cities/County/District Stormwater Pollution Control Program (SPCP) in February 1991. The Program functions under a Joint Municipal NPDES Permit for stormwater quality management, as authorized by the San Francisco Bay Regional Water Quality Control Board<sup>2</sup>.

The Stormwater Pollution Control Program includes a Stormwater Management Plan (SWMP) for each municipality, with funding for implementation provided under a stormwater utility assessment. The assessment is based on impervious surface of each parcel, vehicle trips associated with the parcel use, and potential for pollutants to enter stormwaters as related to the land use (Walford, 1993). The City of San Pablo's SWMP is funded entirely through these utility fee revenues. The City's SWMP was adopted by the San Pablo City Council on March 1, 1993.

The Contra Costa Cities/County/District Stormwater Pollution Control Program includes provisions for a model ordinance, identification of Best Management Practices (BMPs), extensive public education and public awareness, pollutant source identification and water quality measurement, elimination of illicit discharges, structural and nonstructural controls for commercial and residential area, controls for industrial facilities, controls for new development and construction sites<sup>3</sup> and other elements (Woodward-Clyde, May 1993). The City of San Pablo has selected six existing and twelve new BMPs for adoption into its SWMP. The existing BMPs include street sweeping, catch basin clearing, litter control (including creek cleaning), participation in the West County TDM Program, participation in the CCTA Regional Transportation Management Program, and annual issuance of Dump Vouchers to City residents.

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<sup>2</sup> As allowed under the Clean Water Act, authority for issuing NPDES permits has been delegated by the EPA to the SFBRWQCB in the Bay Area.

<sup>3</sup> Under the regulations promulgated by EPA, construction disturbance on sites greater than five acres requires a separate NPDES permit.

## IV. Environmental Setting, Impacts and Mitigation Measures

### I. Hydrology, Flooding, and Water Quality

The existing programs will be continued, but will be more targeted toward cleaning areas with observed water quality problems. The new BMPs include enforcement authority and procedures to control illicit discharges, inspections, oil recycling, disposal of household hazardous materials, covering of pollutant source areas, search for leaking storage containers, cooperative programs with business for street sweeping and catch basin cleanout on private lands, inspection of materials manifests, grease traps, use of non-polluting vehicles and minimizing leaks in vehicles, minimizing herbicide use, removal of pollutant sources on municipal property, public education, and other administrative functions related to the program (Woodward-Clyde, 1993).

#### Policy Framework

Section IV.F., Public Services and Utilities, discusses the performance standards established by the current *General Plan* Growth Management Element. These performance standards are intended to ensure that new growth pays its share of the cost associated with provision of facilities for flood control and drainage (among other facilities). The City will approve a development project only after making findings that the performance standards will be maintained, specific mitigation measures will be required of the project sponsor to maintain the standards; or planned capital projects will result in the maintenance of the standards. Capital projects sponsored by the City are to be identified in the five-year Capital Improvement Program. The City shall periodically monitor and review the performance standards and infrastructure constraints.

The following policy is presented in the current *General Plan* Open Space and Conservation Element:

#### 3. Environmental Management Programs

- a. *Water Resources.* The Element recommends that lower per capita use of water be encouraged; that priority for new development be given to areas already supplied water; that the groundwater supply be protected; that sufficient storm drainage capacity be available to carry runoff generated by new developments; and that a master drainage plan be completed for Wildcat and San Pablo Creeks.



## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project normally would have a significant effect if it would:

- substantially degrade water quality;
- contaminate a public water supply;
- substantially degrade or deplete ground water resources;
- interfere substantially with ground water recharge;
- cause substantial flooding, erosion, or siltation;
- result in development subject to 100-year flooding;
- increase the potential for flooding due to increased runoff; or
- cause or increase pollution of surface waters via runoff.

These considerations were used as the criteria for evaluating the significant impacts of the San Pablo updated General Plan.

### Significant Impacts

**Impact Hydrology-1: Development consistent with the updated General Plan would place structures and an increased population in areas already subject to 100-year flooding. Additionally, construction of new impermeable surfaces could increase runoff and contribute to flooding. This would be a significant Citywide and regional impact.**

Portions of the development consistent with the updated General Plan would be subject to 100-year flooding from San Pablo, Wildcat, and Rheem Creeks to varying base elevations. These include expanded commercial development along the Giant Road in the northwestern-most corner of the City, the Giant Trade Center Business Park, the Rumrill Boulevard Mixed Use/Special District, and industrial areas located along the western edge of the City. Flood hazards in this area could subject occupants and vehicle operators to life-threatening hazards and expose property to substantial damage. Additionally, during flood events commercial and industrial activities could be substantially curtailed or temporarily prevented because of flooding of new structures and loss of access on flooded streets. Indirect adverse impacts of flooding would result on public services, notably demands on the Police, Fire and Public Works Departments, as well as other services including water supply, sewage treatment, power, communications, and roadway maintenance.



## IV. Environmental Setting, Impacts and Mitigation Measures

### I. Hydrology, Flooding, and Water Quality

An increase in impermeable surface cover over existing vegetation or soil in these areas would increase runoff that could also lead to, or exacerbate, flood conditions. Development in upland areas contributing to runoff that flows to the western part of the City would contribute to a cumulative increased flood hazard in the lower lying western area. Development in other cities (such as Richmond) that are within the drainage area of the creeks would also contribute to the cumulative flood hazard. Because most of the City already is developed, substantial changes in runoff are not expected. Nonetheless, because a significant flood hazard already is present, all increases in runoff would worsen the hazard, and therefore are deemed significant impacts. A flood control construction project on lower Wildcat Creek at the railroad trestle to the west is currently under construction by the U.S. Army Corps of Engineers; these channel and creek improvements are intended to achieve protection from the 100-year flood.

#### **Impact Hydrology-1: Mitigation Measures proposed as part of the updated General Plan:**

The following are proposed as part of the Public Safety and Related Services Element:

**Policy PS 1.1: Public Education and Disaster Awareness**

**Policy PS 1.2: Disaster Preparedness**

**Policy PS 1.3: Regulatory Actions**

**Action PS 1.A: Hazardous Safety Zone Map and Users Guide**

**Action PS 1.B: Information Resource Center**

**Action PS 1.C: Public Education Safety Strategy**

**Action PS 1.D: Update the Multi-Hazard Functional Plan (MHFP)**

**Action PS 1.E: Regulatory - Building Structural Safety: Existing Conditions**

**Action PS 1.G: Regulatory - Building Structural Safety: New Construction**

**Action PS 1.J: Regulatory - Flooding**

**Action PS 1.K: Flood Plain Land Use**

The following are proposed as part of the Environmental Resources Management Element:

**Creeks - Policy ER 1.3: Creek Maintenance, Management and Improvements**

**Creeks - Policy ER 1.4: Protection of Creeks Natural Character**

**Creeks - Policy ER 1.6: Multi-Use Creek Corridor Prioritization**

**Creeks - Action ER 1.E: Protection of Natural Features**

The following are proposed as part of the Circulation, Public Facilities and Services Element:

**Policy CF 3.1: Water, Wastewater and Storm Drainage**

**Action CF 3.C: Outdated Infrastructure Improvements**

**Impact Hydrology-1: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

**Implementing Policy P3.1:** Development Mitigation Program. The City will adopt and implement a development mitigation program to ensure that new growth is paying its share of the costs associated with the provision of facilities for fire, police, parks and recreation, sanitary facilities, water, and flood control and drainage.

**Implementing Policy P3.2:** Findings on Performance Standards. The City will approve development projects only after making findings that one or more of the following conditions are met:

- (1) Assuming participation in adopted mitigation programs, performance standards will be maintained following project occupancy;
- (2) Because of the characteristics of the development project, project-specific mitigation measures are needed in order to ensure maintenance of standards, and such measures will be required of the project sponsor; or
- (3) Capital projects planned by the jurisdiction or special district(s) will result in maintenance of standards.

**Implementing Policy P3.3:** Capital Improvement Program. Capital projects sponsored by the City and necessary to maintain levels of performance shall be identified in a five year Capital Improvement Program (CIP). Funding sources covering the complete cost of the project as well as intended phasing shall be generally identified in the CIP.

**Implementing Policy P3.4:** Contributions to Improvements. All new development shall contribute to or participate in the improvement of the parks and recreation facilities, fire, police, sanitary facilities, water, and flood control and storm drainage systems in proportion to the demand generated by project occupants and users.

**Implementing Policy P3.5:** The City of San Pablo shall monitor and review performance standards and infrastructure constraints on a periodic basis.

**Impact Hydrology-1: Additional Mitigation Measures Identified in this EIR**

**Hydrology-1a:** The City shall prepare storm drainage development standards prior to development consistent with the updated General Plan (that would exceed the capacity of the system). This is an important measure since new drainage and pollution prevention and control infrastructure would have to be built to accommodate the increase in runoff.

**Hydrology-1b:** For development consistent with the updated General Plan, runoff increase calculations at full build-out should be measured against estimates of existing runoff to ensure that no flooding would result. If hydrologic models indicate that on- or

## IV. Environmental Setting, Impacts and Mitigation Measures

### I. Hydrology, Flooding, and Water Quality

off-site flooding could result from full build-out of development, flood retardation measures should be incorporated into development plans that would eliminate the increase in flooding potential. Such measures could include detention basins, grassy swales, and vegetated drainage channels.

**Hydrology-1c:** Action PS 1.G of the Public Safety and Related Services Element should be amended to include: Finished floor elevation of all development consistent with the updated General Plan must be at least one foot above the 100 year flood elevations prescribed on the Flood Insurance Rate Map.

**Hydrology-1d:** Policy 1.3 of the Public Safety and Related Services Element should be amended to include the following: In order to protect lives and property, development consistent with the updated General Plan should not be permitted unless flood protection in such areas is constructed to the standards of the Flood Disaster Protection Act of 1973.

#### **Impact Hydrology-1: Significance After Mitigation**

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level, because 1) updated General Plan policies would increase public awareness and improve community response, incorporate flood hazards into zoning decisions and building construction and reconstruction, and support compatible uses; 2) existing Growth Management Element policies would help to ensure that new growth pays its share of the cost associated with provision of facilities for flood control and drainage; and 3) additional mitigation measures would help to prevent flooding and flood hazards.

**Impact Hydrology-2: Development consistent with the updated General Plan could result in increased non-point-source and point-source contamination of surface waters, and subsequently affect groundwater quality, from common urban sources, construction activity and vehicle use. This would be a significant Citywide and regional impact.**

In general, increased development and population in San Pablo may be expected to result in increased generation of urban water contaminants. In addition to increased sediment related to construction activities, development of the study area parcels could increase other types of non-point source contamination. Runoff from residential, commercial and institutional urban uses typically includes sediment, herbicides, pesticides, nutrients from fertilizers, organic debris, coliform, trash, grease, solvents, metals, salts and other contaminants. Runoff from streets and parking lots contains typical urban pollutants including oil, grease, fuel, rubber, heavy metals, solvents, coliform and trash. Motor vehicle exhaust also generates lead and particulates that could be picked up by runoff and carried into nearby surface water bodies, such as San Pablo Bay.



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Contamination of surface water generally is most significant in the first storms of autumn, following the long summer dry period when contaminants collect over a broad area and the streams have low flows. After the initial pulse of contaminants has been washed through the storm drains and water courses, the subsequent storms in autumn and winter typically have somewhat better water quality because of reduced contaminant loads and greater dilution from higher flows: an exception to this is silt which typically increases during winter storms as a result of soil erosion.

Vehicle traffic on roads within and in the vicinity of the Plan area is a substantial source of non-point source contaminant loads in water, and traffic would increase as a result of Plan implementation (see Section IV.B, Transportation). Typical contaminants and their sources on streets are presented in Appendix E. Substantial quantities of heavy metals are found in street dirt, and are assumed to be a principal source of heavy metals in urban storm water runoff in the Plan area (based on data collected in western Alameda County) (Woodward-Clyde, 1994).

Streets and parking areas also supply substantial loads in runoff of hydrocarbons from leaks of vehicle lubricants and fuels. Because the City draws in and contributes to traffic from the entire region, vehicle traffic to/from the Plan Area would have widely dispersed distribution. The patterns of vehicle travel are the basis for widespread contaminant dispersion on roadways. Data are not available to estimate the current City generated traffic-related contribution to contamination throughout the wider Bay Area. Except for those removed by street cleaning, all of the Plan area and adjacent road surface contaminants become entrained in storm water runoff discharged into the creeks and ultimately into the waters and mud flats of San Pablo Bay.

San Pablo, Wildcat and Rheem Creeks are likely to exceed Water Quality Objectives (WQOs) for copper and zinc; other measured total metals and other dissolved metals are likely at concentrations within the objectives. (Although no measurements were made for these creeks, they are presumed for this analysis to be similar to the water courses that were monitored in western Alameda County (Woodward-Clyde, 1994).) Most total metals concentrations in storm runoff probably come from soil erosion and metals bound to particulates washed into streams.

The City currently carries out regular street sweeping that reduces, but does not entirely eliminate, pollutants deposited by vehicles on the streets. Conventional street sweepers and their normal mode of operation are effective at picking up only relatively large-sized particles. Beyond some sediment control, conventional street sweepers have little benefit for water



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pollution control because the amounts of associated pollutants increase significantly as particle size decreases (Woodward-Clyde, 1989). This means that especially problematic pollutants of primary concern (heavy metals and petroleum hydrocarbons) are not effectively removed before being entrained in runoff. Pollutants tend to accumulate rapidly on streets following a storm (or street sweeping), reaching a quasi-equilibrium within a few weeks. Storm water runoff from I-80 also undoubtedly contributes a substantial amount of the contaminant loads that occur in the creeks of San Pablo.

Increased pollutant loads in runoff from San Pablo would be detrimental to wildlife in San Pablo Bay and San Francisco Bay. The mud flats along the margins of the Bay support a variety of invertebrate fauna, macro- and micro-algae, phytoplankton, benthic photosynthetic bacteria and other forms of life that support fishes and aquatic birds and are important to the ecological structure of San Francisco Bay (Nichols, 1988). The potential deleterious effects of contaminant-bearing sediments on the benthos and organisms that feed on the benthos are a major concern. The substances of greatest concern have been petroleum hydrocarbons and heavy metals because samples of clams and mussels from the Bay have shown some of the highest body burdens of these substances in organisms sampled from coastal waters nationwide (Nichols, 1988). Ultimately, particulates, metals, and organic contaminants from the Plan Area and vicinity are discharged through the creeks into San Pablo Bay. Most pollutants discharged to the Bay end up in particulate form through adsorption, complexation and precipitation, and lead to concentrations that are much higher than in the overlying water (Nichols, 1988).

Trace metals and organic contaminants generally had highest concentration in the northern and southern portions of San Francisco Bay in 1994. Background concentration of major classes of contaminants in sediments of the Bay are generally within the range in which biological effects could be occurring. Additionally, numerous exceedences of water quality guidelines throughout the Bay occurred in 1994, although few water samples exhibited significant water toxicity. Although no trace organic contaminants in bivalve tissues were found to exceed the Food and Drug Administration's action levels or National Academy of Sciences guidelines, tissue levels were higher than Maximum Tissue Residue Levels (MTRLs) developed by the State Water Resources Control Board for most trace organic groups throughout the Bay (SF Estuary Institute, 1995). Runoff from San Pablo would contribute to sources of cumulative pollution in San Pablo Bay. Water quality at discharge points along the margins of San Pablo Bay remain a concern (Monroe, 1991). San Pablo Bay offshore of the mouth of San Pablo Creek has been identified as having some environmental problems, notably concentrations of oil and grease, and exceedences

## IV. Environmental Setting, Impacts and Mitigation Measures

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of environmental thresholds for selenium and mercury in ducks (CBE, 1987). At nearby Castro Cove (in which large industrial facilities are concentrated) exceedances also have been noted for chromium, nickel and sediment (CBE, 1987). The sources of these pollutants have been attributed to industrial and domestic sewage, polluted urban runoff, and seepage from Bayside landfills (CBE, 1978).

Urban development, particularly industrial and commercial development, also would generate increased surface water and ground water contamination from hazardous substances. These are discussed in Section IV.G of this report.

Impacts on surface water quality also affect groundwater quality, as groundwater is recharged through percolation in the water courses and in exposed soils. Recharge probably is especially significant along the water courses within the City. Contaminated runoff flows into the storm drains and eventually into the water courses where percolation into the groundwater occurs. Because San Pablo is already mostly developed, it is unlikely that substantial changes in existing recharge systems or pathways of contamination would occur from development under the Updated General Plan. The impact, therefore, is based on the potential increase in development-related contaminant loads in runoff, a portion of which recharges the groundwater in the area.

Quantification of degradation of surface water and groundwater quality would be speculative because the extent of the impact would depend on the specific location and type of development. However, degradation of surface water and groundwater quality would likely be a significant impact of increased development.

#### **Impact Hydrology-2: Mitigation Measures proposed as part of the updated General Plan:**

The following are proposed as part of the Environmental Resources Management Element:

**Groundwater and Water Quality - Policy ER 1.18: Regional Cooperation**  
**Groundwater and Water Quality - Policy ER 1.19: Local Project Review**

**Groundwater and Water Quality - Action ER 1.K: Groundwater Pollution**  
**Groundwater and Water Quality - Action ER 1.L: Groundwater Mapping**  
**Groundwater and Water Quality - Action ER 1.M: Construction Standards**  
**Groundwater and Water Quality - Action ER 1.N: NPDES Participation**  
**Groundwater and Water Quality - Action ER 1.O: New Construction**

IV. Environmental Setting, Impacts and Mitigation Measures  
I. Hydrology, Flooding, and Water Quality

**Impact Hydrology-2: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Hydrology-2: Additional Mitigation Measures Identified in this EIR**

The City shall condition approval of individual development proposals on the following mitigation measures:

**Hydrology-2a:** Develop a Master Water Quality Control Plan consistent with the Contra Costa Cities/County/District Stormwater Pollution Control Plan for the City, including measures to clean up existing contaminated water resources, to identify and remove or mitigate existing sources of pollution, and to develop ways of preventing further contamination such as specific water treatment policies for industries and retention basins for surface runoff carrying roadway contaminants. The Master Water Quality Control Plan should be a more comprehensive document than the Storm Water Management Plan, dealing with groundwater and infrastructure issues in addition to stormwater. Such a plan must be approved by the City Engineer and should be reviewed by the Regional Water Quality Control Board and State Department of Water Resources for correctness and thoroughness, prior to implementation.

**Hydrology-2b:** As part of Groundwater - Action 1.O, continue to use and develop additional best management practices (BMPs) for City facility managers, institutional managers, land developers and businesses to follow.

Implementation of best management practices by the City, developers and businesses would further help to mitigate this impact. (The City has already selected a number of BMPs as part of its SWMP.) Such practices may include, but are not limited to:

- regularly inspect, maintain and clean out stormwater retention or detention structures;
- regularly inspect, maintain and clean out oil and water separators;
- regularly inspect, maintain and clean out maintain sediment traps;
- promote self-directed removal of on-site trash, dead vegetation and leaf litter;
- use biodegradable herbicides and pesticides and encourage the use of bio-integral landscape management methods to reduce the need for artificial chemicals;
- conduct regularly scheduled clean up of the channels of water courses, including at least one clean-up effort in September before the onset of the rainy season;
- conduct regular careful maintenance of City, institutional and business vehicle fleets to prevent leaks of fluids and deposition of contaminants;
- encourage and provide incentives to support vehicle trip reduction programs for employees and for materials hauling; and



## IV. Environmental Setting, Impacts and Mitigation Measures

### I. Hydrology, Flooding, and Water Quality

- provide worker education programs to discourage practices resulting in contamination and to promote practices that protect water quality (this measure also should be incorporated into Overall Open Space Action 1.A).

Particles of sediment adsorb many of the heavy metal pollutants from automobile exhaust, as well as trapping oil and grease within their pores. Through use of water separators, and sediment traps in conjunction with settling basins, many of the pollutants could be removed.

**Hydrology-2c:** As part of Groundwater Action 1.O, develop a set of design guidelines for City facilities, institutions, land development, and transportation systems to follow for improving runoff water quality.

Design considerations may include, but are not limited to the following actions:

- install and maintain appropriately sized stormwater retention or detention structures;
- install and maintain oil and water separators;
- install and maintain appropriately sized sediment traps;
- – install and maintain landscaping that requires minimal application of herbicides, pesticides and fertilizers;
- plant drought resistant landscaping that reduces the need for irrigation (and which, therefore, increases potential for runoff and use chemicals and fertilizers); use of turf in decorative landscaping should be discouraged and generally should not exceed 25% of the irrigated area; turf grasses should be drought tolerant varieties such as tall fescue-dwarf variety, zoisya or bermuda;
- do not permit planting of turf in median strips or in areas less than eight feet wide;
- to reduce runoff, do not permit use of sprinkler and spray systems in areas less than eight feet wide;
- to reduce runoff, encourage the use of drip irrigation systems;
- do not permit artificial slopes or berms to exceed 10% slope; and
- encourage the use of permeable pavements where only light loads are present (e.g., sidewalks, light vehicle parking areas, plazas, etc.); this helps to trap sediments and also reduces runoff); do not use permeable pavements in areas which are used for vehicle maintenance and fueling or other types of hazardous substance handling or in areas used by heavy vehicles.

See also mitigation measures in Section IV.G, Hazardous Materials.

#### **Impact Hydrology-2: Significance After Mitigation**

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level, because the City would require new development to incorporate measures to



#### IV. Environmental Setting, Impacts and Mitigation Measures

##### I. Hydrology, Flooding, and Water Quality

control the volume of surface runoff and prevent reductions in water quality, and the City would continue to implement Best Management Practices.

##### Beneficial Impacts

Except for those policies which would promote development in flood hazard areas, the proposed policies and actions of the updated General Plan would foster more effective preparedness and response to flood hazards. The policies and actions of the updated General Plan that would reduce hazards and promote more effective flood hazard preparedness and response are identified in the mitigation measures under Hydrology Impact-1 (Mitigation Proposed as Part of the Updated General Plan). This would be a beneficial impact.

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IV. Environmental Setting, Impacts and Mitigation Measures  
I. Hydrology, Flooding, and Water Quality

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## **J. LANDFORM, GEOLOGY, SOILS, AND SEISMICITY**

### **SETTING**

#### **Landform**

The City of San Pablo occupies two general topographic zones: the hillside zone and lowland zone (the latter also is called the Bay Plain).

#### **Hillside Zone**

The hillside zone is comprised of steep to moderate sloping hillside areas in two locations: (1) the eastern and southeastern portions of the City on the northwestern flank of San Pablo Ridge, generally above 100 feet elevation, mean sea level datum (msl); and (2) the northern portion of the City, generally above elevation 60 feet msl. Slope is commonly over 15 percent gradient, with some areas in excess of a 30 percent gradient. The hillside and ridge line of Oak Park (east of I-80) are a significant natural feature in this zone.

#### **Lowland Zone**

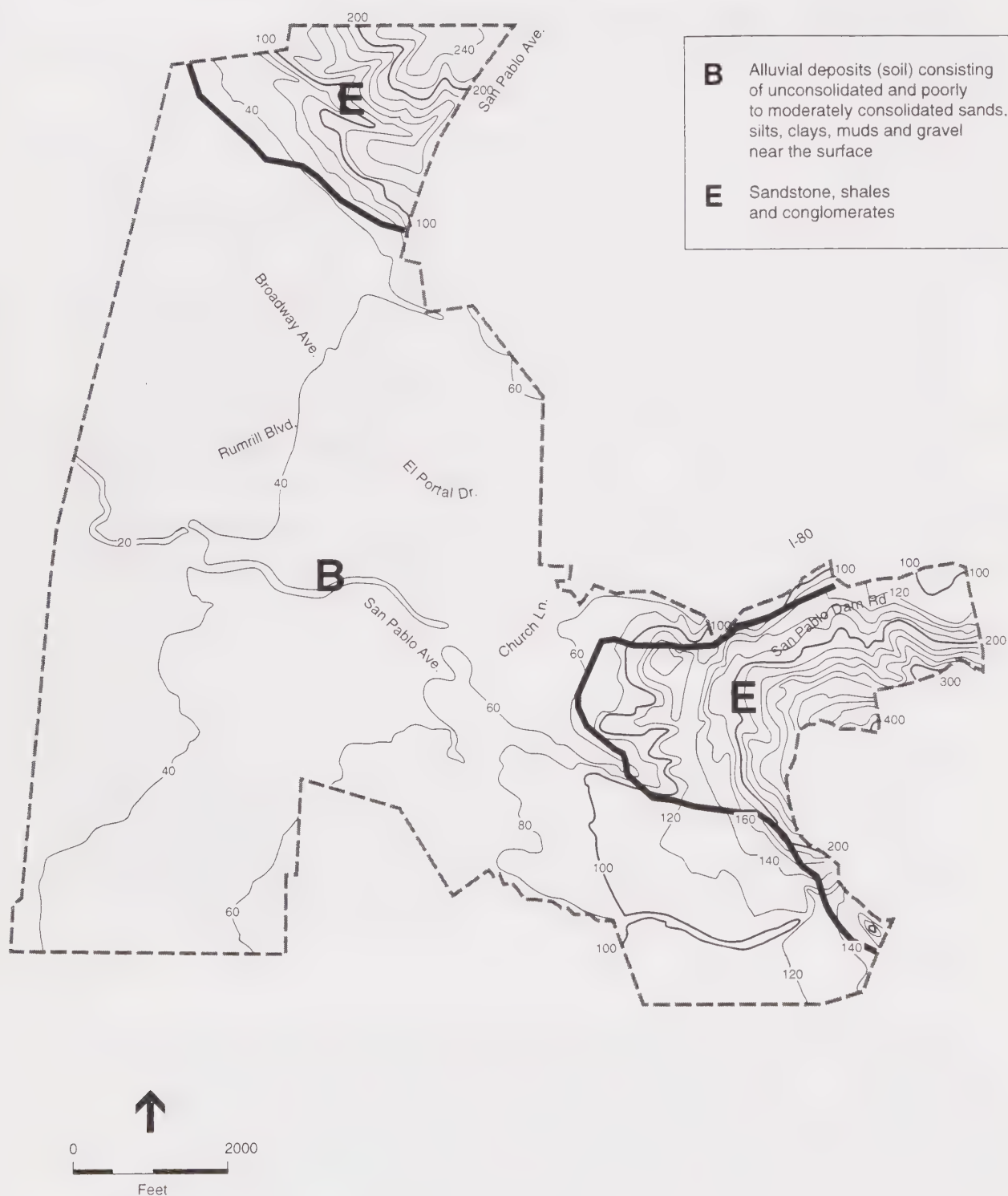
The lowland zone is comprised of the flat to gently sloping areas located between the steeper hills to the east and north and the Bay shore to the west. It includes the gently sloping areas forming the flood plains of San Pablo Creek and Wildcat Creek, which broaden generally toward the west. Slopes are generally less than three percent. The lowland zone is generally between about elevation 30 to 60 feet. The lowland zone occupies most of the area of the City.

#### **Geology**

Figure IV.J.1 shows the generalized surface geology of the City. The entire lowland zone of the City is underlain by Quaternary-aged<sup>1</sup> alluvium (Dibblee, 1980). Alluvium consists of interbedded clay, silt, sand, gravel and coarse debris deposited by streams. These deposits are the product of weathering and erosion of the hills to the east. Throughout the Quaternary Period, San Pablo, Wildcat and Rheem Creeks picked up the eroding slope debris and transported it to

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<sup>1</sup> The Quaternary Period refers to the last 1.6 million years of earth history. It encompasses the Pleistocene Epoch (so-called Ice Age) between about 1.6 million and 10,000 years before the present, and the Holocene Epoch, between about 10,000 years ago to the present. The last 200 years of the Holocene Epoch are referred to as the Historic period.



SOURCE: Tri-Cities Seismic Safety and Environmental Resources Study:  
Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

**Figure IV.J.1**  
Generalized Surface Geology



#### IV. Environmental Setting, Impacts and Mitigation Measures

##### J. Landform, Geology, Soils, and Seismicity

the low lying areas, where the sediments were deposited along the channels. Migration of the creeks across the plain over time resulted in the formation of a broad plain.

The alluvium is divided into three types (Helley, *et al.*, 1979). (1) Late-Pleistocene alluvium (designated Qpa on geologic maps) occupies much of the Old Town district (generally the area west of 23rd Street and south of Wildcat Creek), the El Portal District (the area near the El Portal Shopping Center), and the western part of the Central District (the area between El Portal and I-80). It is comprised of weakly consolidated, slightly weathered, poorly sorted and irregularly inter-bedded clay, silt, sand and gravel. (2) Medium-grained alluvium (designated Qham on geologic maps) is Holocene in age and is comprised of unconsolidated, moderately sorted, permeable, fine sand, silt, and clayey silt with a few thin beds of coarse sand. The medium-grained alluvium is located in the areas adjacent to Wildcat Creek and San Pablo Creek including areas in the northern part of the Old Town District, the southern part of the Rumrill and Sheffield District and the western part of the El Portal District. Another area of this material is present astride the northern edge of the Rumrill and Sheffield District (the area at the west end of the City, near Rumrill Boulevard) and the southern part of the Bayview District (the area at the north end of the City). (3) Fine-grained alluvium (designated Qhaf on geologic maps) is also Holocene in age and consists of unconsolidated, plastic (deformable), moderately to poorly sorted carbonaceous silt and clay. It is present in the west central part of the Rumrill and Sheffield District.

The alluvium varies in depth. Few data are available on the depth to bedrock. Alluvium probably is generally deep in the western and central parts of the City, and thins toward the lower slopes of the bedrock hillsides. However, substantial variations in the depth of the alluvium and to the top of buried bedrock may be present over short horizontal distance.

Local deposits of artificial fill are scattered throughout the City. Old fills (generally placed before the 1950s) were laid with variable attention to engineering, as was common throughout the Bay Area. The old fills typically consist of heterogeneous material including organic material and waste debris. As a rule, the old fills were poorly compacted, although they have had a long period to settle since being placed. After the 1950's, more standardized engineering practice was developed for fill emplacement, including materials sorting, removal of organic material, and compaction methods to achieve acceptable standards of compressibility and allowable settlement.

## IV. Environmental Setting, Impacts and Mitigation Measures

### J. Landform, Geology, Soils, and Seismicity

Bedrock is exposed at the surface in the uplands. Most of the bedrock consists of non-marine sedimentary rocks (designated Tps on geologic maps) of the Contra Costa Group, specifically the Orinda Formation consisting of weakly consolidated pebble conglomerate, sandstone, claystone and siltstone of Pliocene age<sup>2</sup> (Dibblee, 1980). Bedrock is exposed in the northern part of the Bayview District, the Oak Park District, the South Entrance District (the area near San Pablo Avenue at the south end of the City) and in a portion of the Central District. Bedrock is also exposed in the south central portion of the Old Town District.

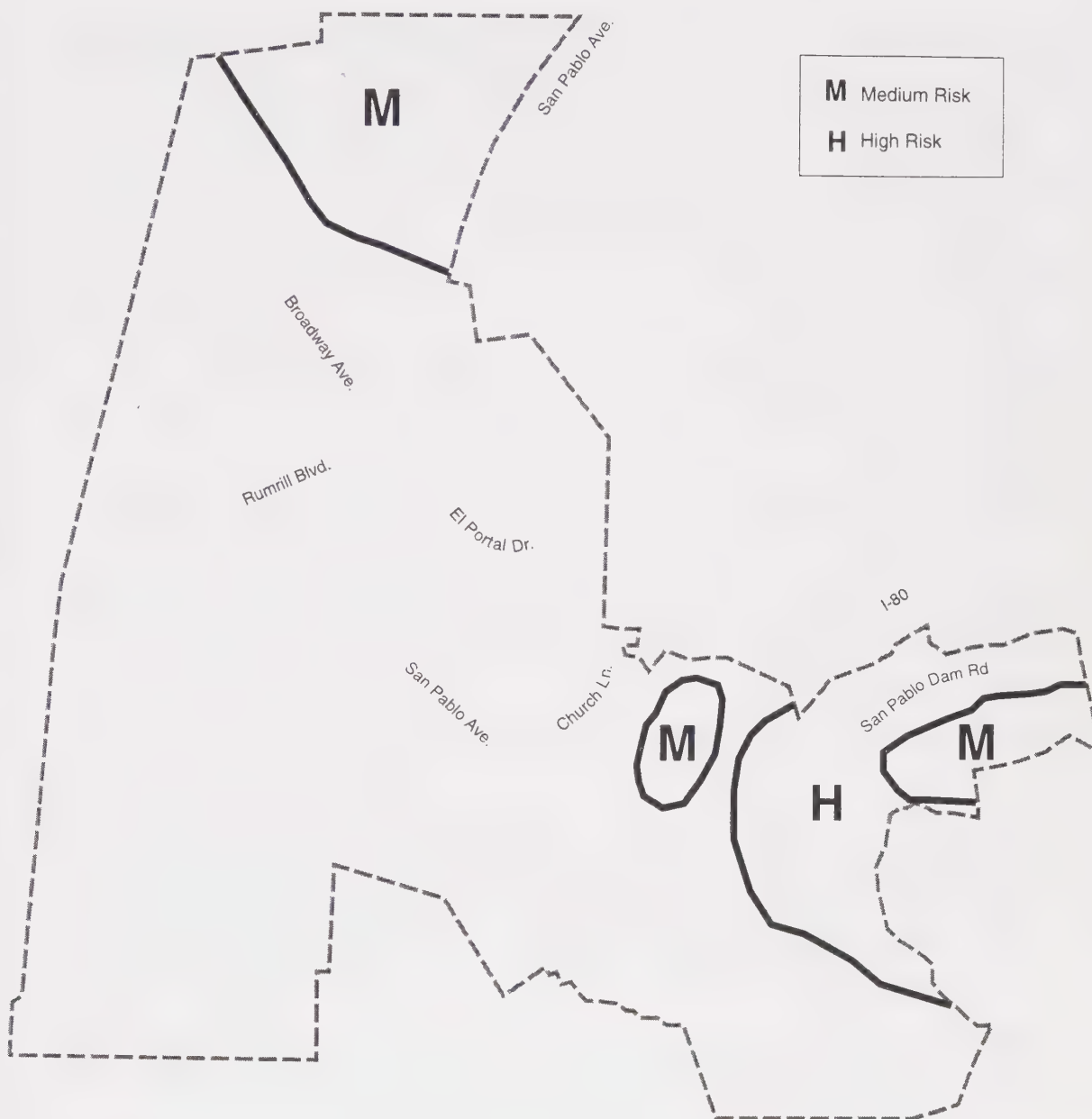
Landslide deposits are present in a few areas of the uplands. Figure IV.J.2 shows the medium and high landslide risk areas. The Oak Park District is classified as a *high landslide risk area*, and a portion of the Central District and most of the Bayview District are classified as *medium landslide risk areas* (Armstrong, 1973). In the Oak Park District, the shale and claystone components of the Orinda Formation rocks weather to clays with medium to high plasticity that are subject to swelling when saturated and to movement. Parts of three large landslides (designated QIs on geologic maps) are located on steep slopes in the Oak Park District, and the toe of a fourth landslide impinges on the City boundary (Nilsen, 1973). Some of these are ancient landslides that are subject to activation during years of heavy rainfall. Earthquakes also may induce landsliding. One of the major landslides was activated in February 1983; it encompassed Hillcrest Road and a large area down to San Pablo Dam Road (Woodward-Clyde, 1987). The City undertook a repair of the portion of the landslide under Hillcrest Road, and effectively stabilized the slopes under Hillcrest Road and the homes south of it. The area north of Hillcrest Road was not repaired, and has remained an active landslide since 1983 (the recommended repairs were considered too expensive).

#### Soils

Soils in the City are broadly broken into those associations (categories) that occur on lowland alluvium and those associations present on steeper land of the uplands. The lowland alluvial soils are divided into three associations, summarized below (Soil Conservation Service, 1976):

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<sup>2</sup> The Pliocene Epoch is the period of earth history dating from about 12 million to 1.6 million years before the present.



Note: Grading, excavation and development activities completed subsequent to the Tri-Cities study may have reduced the area subject to risk, particularly along San Pablo Dam Road, just west of I-80, and within the cemetery west of I-80

SOURCE: Tri-Cities Seismic Safety and Environmental Resources Study;  
City of San Pablo; Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

## Figure IV.J.2 Medium & High Landslide Risk Areas

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### J. Landform, Geology, Soils, and Seismicity

- (1) The *Brentwood-Rincon-Zamora* association consists of well-drained clay loams and silty clay loams on level to gently sloping areas of valley fill, alluvial fans and low terraces. They are typically very deep soils. They are subject to high shrink-swell potential, and have low to moderate strength. They have moderate to severe limitation for bearing dwellings without basements and for local roads; they are poor to moderate in suitability as a source of road fill. These soils are located primarily adjacent to San Pablo and Wildcat Creeks in the Rumrill and Sheffield District, northern part of Old Town District, southern part of the El Portal District and in the Central District.
- (2) The *Capay-Rincon* association consists of moderately well-drained and well-drained clays and clay loams on nearly level to strongly sloping valley fill. The soil is typically over 60 inches deep. These soils are subject to high shrink-swell hazard and have low strength. They have severe limitations for dwellings without basements and for local roads; they are generally poor materials for road fill. These soils are located primarily in the South Entrance District and Central District.
- (3) The *Clear Lake-Cropley* association consists of poorly drained and moderately well-drained clays on nearly level to gently sloping areas of valley fill and in coastal valley basins. The soils are subject to high shrink-swell potential and have low strength. They have severe limitations for dwellings constructed without basements and for roads; they are a poor source material for road fill. These soils are present in the northern part of the Rumrill and Sheffield District and southern Bayview District, the northern El Portal District and in the southern part of the Old Town District.

The upland soils are divided into the following two associations (Soil Conservation Service, 1976):

- (1) The *Tierra-Antioch-Perkins* association consists of moderately well-drained and well-drained loams and clay loams that formed on nearly level to moderately steep areas in old alluvium on terraces. The soils have low to high shrink-swell hazards and low strength. They have moderate to severe limitations for dwellings constructed without basements and for roads; they are a poor to fair source material for road fill. The association is present in the northern part of the Bayview District.
- (2) The *Gilroy-Vallecitos* association consists of well-drained clay loams and loams that formed from material weathered from interbedded sedimentary rocks of the uplands. Shrink-swell behavior varies from low to high, and strength is low. They have severe limitations for dwellings constructed without basements and for roads; they are a poor source material for road fill. The soils tend to be thin, which presents additional limitations for construction. The association is typically present on moderately steep to very steep slopes forming the hillsides of the Oak Park District. Minor areas of rock outcrop also are present.

##### Seismicity

##### Fault Zones

San Pablo, and the San Francisco Bay Area as a whole, is located in one of the most seismically active regions in the United States. Major earthquakes have affected the City in the past and



#### IV. Environmental Setting, Impacts and Mitigation Measures

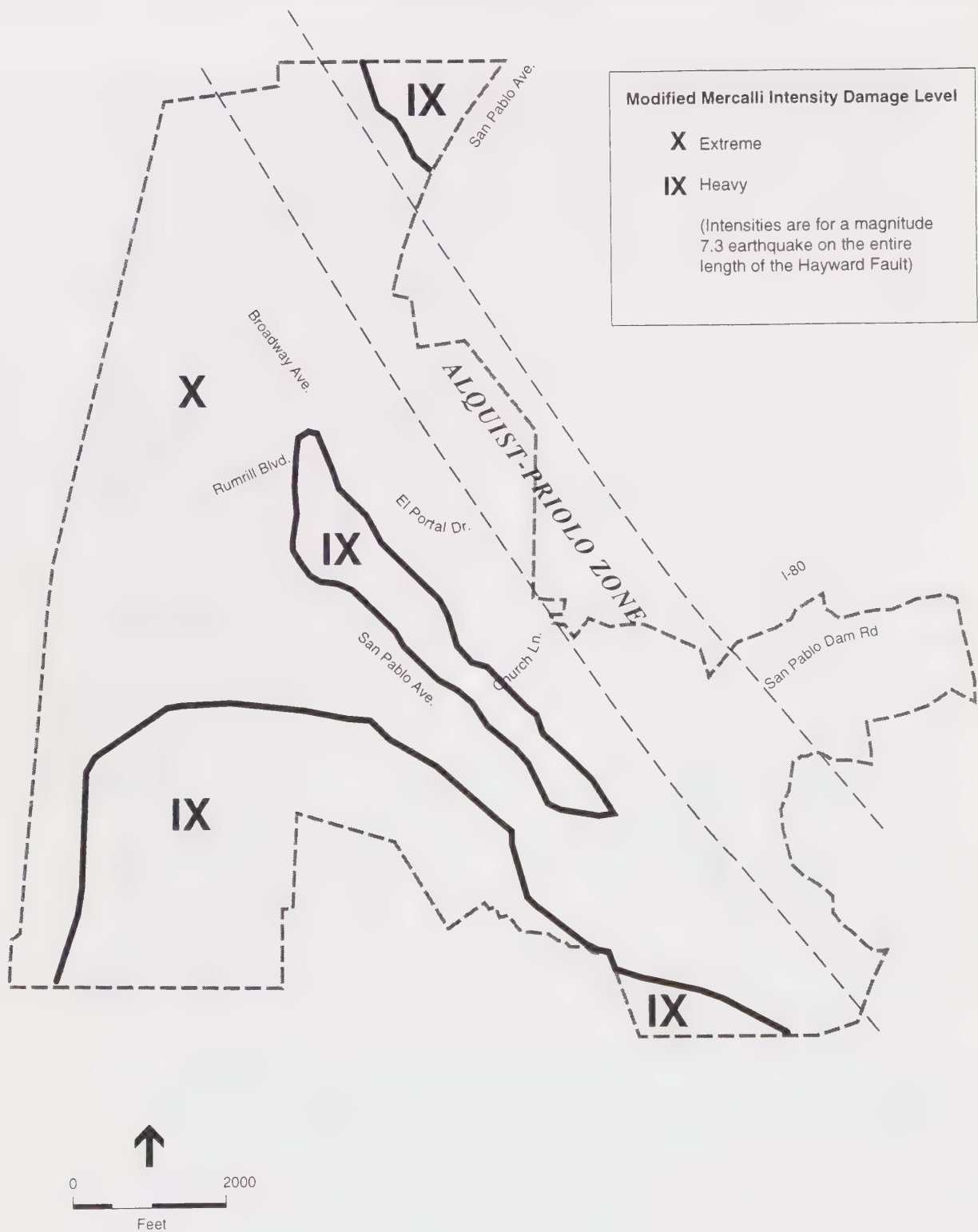
##### J. Landform, Geology, Soils, and Seismicity

may be expected to occur again in the near future. The Working Group on California Earthquake Probabilities (1990) estimates that there is 67 percent probability of one or more magnitude 7 earthquakes occurring on one of the major faults with the region by the year 2020. Some geologists have indicated that the probability of a major earthquake in the next 30 years is substantially higher, when considering new data on fault slip rates, earthquake recurrence intervals and elapsed times from last earthquakes, and identification of new earthquake sources (Schwartz, 1994).

The City is subject to earthquakes from seismic activity generated both on nearby and distant fault systems. There are approximately 30 known faults in the Bay Area that are considered capable of generating earthquakes. The most prominent capable faults considered most likely to generate large earthquakes are described below.

Hayward Fault Zone. Because of its presence within the City of San Pablo, the Hayward Fault is considered a source of high earthquake hazard to the entire City. The hazard is related both to the potential for ground rupture, with associated displacement and ground cracking, as well as high levels of ground shaking that would accompany a rupture in the area. The Hayward Fault is classified as an historically active fault, with evidence of displacement in 1836 and 1968 (Jennings, 1994; Radbruch, 1967). The Hayward Fault is more correctly characterized as a zone, as at least two traces of the fault have been identified within San Pablo. Both are located at the western base of San Pablo Ridge. The fault zone is part of the larger northwest-southeast trending Hayward Fault zone that extends from Richmond to San Jose, and possibly may be linked in the north to the Rodgers Creek Fault Zone in Sonoma County and, in the south to the Calaveras Fault Zone. The Hayward Fault Zone is considered one of the most significant fault zones in the Bay Area.

The Hayward Fault is included within an Alquist-Priolo Fault Zone (shown in Figure IV.J.3). The Alquist-Priolo Earthquake Zoning Act (formerly known as the Alquist-Priolo Special Studies Zone Act of 1972) was enacted to mitigate the hazards of surface fault rupture along earthquake faults considered to be "sufficiently active and well-defined as to constitute a potential hazard to structures from surface faulting or fault creep." The purpose of the Act is to avoid placing habitable structures across traces of active faults. Under the Act, faults are identified as "*active*" if they display evidence of displacement or creep within approximately the last 11,000 years (Holocene), and faults are identified as "*potentially active*" if there is evidence of displacement during Quaternary time but evidence is lacking of displacement in the Holocene.



SOURCE: Tri-Cities Seismic Safety and Environmental Resources Study;  
Earthquake Planning Scenario: Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
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**Figure IV.J.3**  
Projected Earthquake Intensities  
and Alquist-Priolo Zone

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### J. Landform, Geology, Soils, and Seismicity

The Alquist-Priolo Zone is up to 1,500 feet wide within San Pablo; in some areas multiple traces of the fault have been identified within this zone. The Tri-Cities Seismic Safety and Environmental Resources Study (Armstrong, 1973) adopted the designated areas of the Alquist-Priolo Special Studies Zone, although it was termed the Fault Hazard Special Management Area.

No police stations, fire stations, primary or secondary schools or hospitals are located within the Alquist-Priolo Earthquake Fault Zone in San Pablo; Contra Costa College is located within the Zone.

In the San Pablo area, displacement along the Hayward Fault Zone appears to be both horizontal and vertical (Radbruch, 1967). The horizontal fault movement is termed *right lateral*, that is horizontal displacement of the western side of the fault is in a northwesterly direction relative to the eastern side of the fault. Creep<sup>3</sup> of about 0.5 centimeter per year has been identified in the San Pablo and Richmond areas (Armstrong, 1973). The front of San Pablo Ridge and the Berkeley Hills has been interpreted as a dissected fault scarp, indicating relative uplift of the hills on the eastern side of fault compared to the lowlands on the western side.

The slip rate<sup>4</sup> on the Hayward fault is currently estimated at 9 millimeters per year (mm/yr), as compared to the previous estimate of 7.5 mm/yr (Working Group on California Earthquake Probabilities, 1990). The higher slip rate shortens the expected time to the next earthquake and increases the likelihood of an earthquake. There have been elapsed periods of 125 and 167 years since the last earthquake on the southern and northern segments of the Hayward Fault, respectively. An earthquake with a magnitude 7 has a 23 percent and 28 percent probability of occurring in the next 30 years on the southern and northern segments of the Hayward Fault, respectively (Working Group on California Earthquake Probabilities, 1990). Of all the major Bay Area fault systems and their sub-sections, the northern segment of the Hayward Fault is regarded as having the highest probability of a magnitude 7 earthquake in the next 30 years. San Pablo is located on the northern segment of the fault.

Earthquakes larger than magnitude 7 are possible on the Hayward Fault, although the recurrence interval for such an event would be greater. Based on geological data, a maximum credible

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<sup>3</sup> Creep refers to a very slow imperceptible movement on a fault over time. The displacement of the rock and soil eventually can amount to a substantial change in horizontal and/or vertical positioning of the sides of the fault.

<sup>4</sup> The slip rate is the amount of displacement from seismic forces that occurs over a unit of time between two points that were formerly adjacent to one another on opposite sides of a fault. This can include large rapid displacements in large earthquakes, or smaller displacements in micro-earthquakes and as related to creep.



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earthquake<sup>5</sup> with 7.5 magnitude is possible (California Division of Mines and Geology, 1987). During such an earthquake, maximum credible rock acceleration would be 0.5 g (gravitational acceleration).<sup>6</sup>

Wildcat Fault. This fault is considered to be a branch of the Hayward Fault and transects the latter. The Wildcat Fault was removed from the Alquist-Priolo Special Studies Zone because of the lack of documented evidence of historic activity.

Rodgers Creek Fault Zone. The alignment of this fault zone is considered by many geologists to suggest that it may be the northerly extension of the Hayward Fault (the fault may be concealed by the sediments and waters of San Pablo Bay before emerging onto land in Sonoma County). Its closest mapped location to San Pablo is approximately 14 miles to the northwest. The Rodgers Creek Fault is an active fault zone and is included in the Alquist-Priolo Special Studies Zone. The Mare Island Earthquake of 1898 was a 6.5 magnitude event, and is believed to have been caused by movement of the Rodgers Creek Fault. The rate of earthquake activity is considered comparable to the Hayward Fault and capable of generating large earthquakes (Working Group on California Earthquake Probabilities, 1990). The slip rate is interpreted as 9 mm/yr. The probability of a magnitude 7 earthquake on the fault is 22 percent in the next 30 years (Working Group on California Earthquake Probabilities, 1990). The maximum credible earthquake is a magnitude 7.5.

San Andreas Fault Zone. The San Andreas Fault Zone is the predominant fault system in California and has generated some of the largest, most destructive earthquakes in the Bay Area and elsewhere in the state. The 1906 San Francisco Earthquake was a magnitude 8.3 event. The 1989 Loma Prieta Earthquake was a 7.1 magnitude event. It is an active fault in all segments. The nearest location of the San Andreas Fault is approximately 15 miles west of San Pablo, the zone known as the North Coast segment. Within a 30 year time period, an earthquake on the North Coast segment of the San Andreas Fault has a 2 percent probability of occurrence (Working Group on California Earthquake Probabilities, 1990). The low probability of such an event is because geologists believe that this segment moved during the 1906 earthquake (epicenter near Olema). In contrast, in the next 30 years, the San Francisco Peninsula segment is

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<sup>5</sup> The *maximum credible earthquake* is the largest event that appears to be reasonably capable of occurring under the conditions of the currently known geological framework and independent of time, based on seismograph records of earthquakes, geologic evidence and geophysical data. The *maximum probable earthquake* is the largest event that appears to be reasonably expectable within a 100 year period (Greensfelder, 1974).

<sup>6</sup> Gravitational acceleration is 980 centimeters per second per second.



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believed capable of producing a magnitude 7 event with a probability of 23 percent (Working Group on California Earthquake Probabilities, 1990). The maximum credible earthquake is a magnitude 8.3 (California Division of Mines and Geology, 1982).

Concord Fault. The fault is located approximately 15 miles northeast of San Pablo. The Concord fault is active within historic time and it possibly may be linked to the active Green Valley Fault to the north. The maximum credible earthquake is a 7.0 magnitude event.

Calaveras Fault. The closest location of the fault is approximately 27 miles southeast of San Pablo. The fault is active and in recent time was the source of the 1984 Morgan Hill Earthquake and several moderate earthquakes in 1980. The maximum credible earthquake is a 7.25 event.

In addition to the above-mentioned faults, other significant faults in the region that may generate earthquakes affecting San Pablo include: to the east, the Antioch Fault; to the southeast, the Pleasanton, Greenville and Los Positas Faults; to the south, the Sargent, Monterey Bay and San Gregorio Faults; to the west and southwest, the Seal Cove and Point Reyes Faults; to the north and northeast, the West Napa, Burdell Mountain, Tolay and Maacama Faults. Other identified and concealed faults also are present in the region.

#### Ground Shaking

Earthquakes in the Bay Area potentially could produce strong ground shaking in San Pablo. Ground shaking is partly related to the size of an earthquake, the distance from the City, and the response of the geologic materials at the site. As a rule, the greater the earthquake magnitude and the closer the fault rupture to the site, the greater the intensity of ground shaking. Violent ground shaking is generally expected at and near (within about three miles of) a fault rupture. However, geologic materials respond differently to earthquake waves. Deep unconsolidated materials amplify earthquake waves. Even when an earthquake epicenter is distant from a site, it can induce strong ground shaking and wave amplification with severe hazards to people and property, as was evident in Oakland and San Francisco during the 1989 Loma Prieta Earthquake (the epicenter was located in the Santa Cruz Mountains). The depth of the sediments to bedrock also appears to play an important role. Observations of earthquake ground shaking indicate that some of the most severe effects occur where the relatively thin sediments overlie bedrock. Earthquake waves are transformed to greater amplitudes in such areas. The distribution of earthquake wave amplification as related to geologic materials has been mapped by the

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Association of Bay Area Governments (1995) with input from the U.S. Geological Survey. The following discussion is drawn from these maps.

*Very High* wave amplification is present in the alluvial lowlands surrounding San Pablo Creek, particularly in the western portion of the City in the Rumrill and Sheffield District and the northern portion of Old Town. *High* wave amplification is present in the South Entrance District, the south central part of Old Town and in a portion in the north central part of the Bayview District. *Moderate* wave amplification is present in much of the Central District, the southern part of the Bayview District, a portion of Old Town District near the Civic Center, in the El Portal District (except along San Pablo Creek), and in the lower elevation portions of the Oak Park District. The upland portion of the Oak Park District has *Moderately Low* wave amplification, reflecting the presence of bedrock near the surface.

When various earthquake scenarios are considered, the intensity (that is, observed effects using the Modified Mercalli Scale on a range from I to XII) reflects to great degree the effects of fault rupture and the strong ground shaking created by nearness to the rupture zone and/or presence of materials that amplify the earthquake waves. Under the maximum probable earthquake for San Pablo, the intensities created by a rupture of the Northern Segment of the Hayward Fault during an earthquake with a 7.1 magnitude are mapped by the Association of Bay Area Governments (1995). Most of the City would experience an intensity level of X (*Extreme*) on the Modified Mercalli Scale including all of the Oak Park and South Entrance Districts, almost all of the Bayview District, the northern part of the El Portal District, and areas along San Pablo Creek in the Central, Rumrill-Sheffield and Old Town Districts. The remainder of the City, including most of Rumrill-Sheffield, Old Town and a small portion of the El Portal Districts, would experience an intensity level IX (*Heavy*). Under a worse case scenario of the entire Hayward Fault Zone rupturing, creating a magnitude 7.3 earthquake, the patterns of earthquake intensity would be similar to the preceding. Figure IV.J.3 (p. IV.J.9) shows potential intensity damage levels that could result within the City from a 7.3 magnitude earthquake along the entire length of the Hayward Fault.

Earthquakes on other faults generally would produce lower intensities in the City. For example, a magnitude 7.1 earthquake on the Peninsula Segment of the San Andreas Fault would likely result in intensity level VII (*Non-structural Damage*) in the lowland areas, and level V (*Minor Damage*) in the upland areas underlain by bedrock at shallow depth. Intensities related to a maximum credible earthquake on the San Andreas Fault (8.3 magnitude) have not been mapped,

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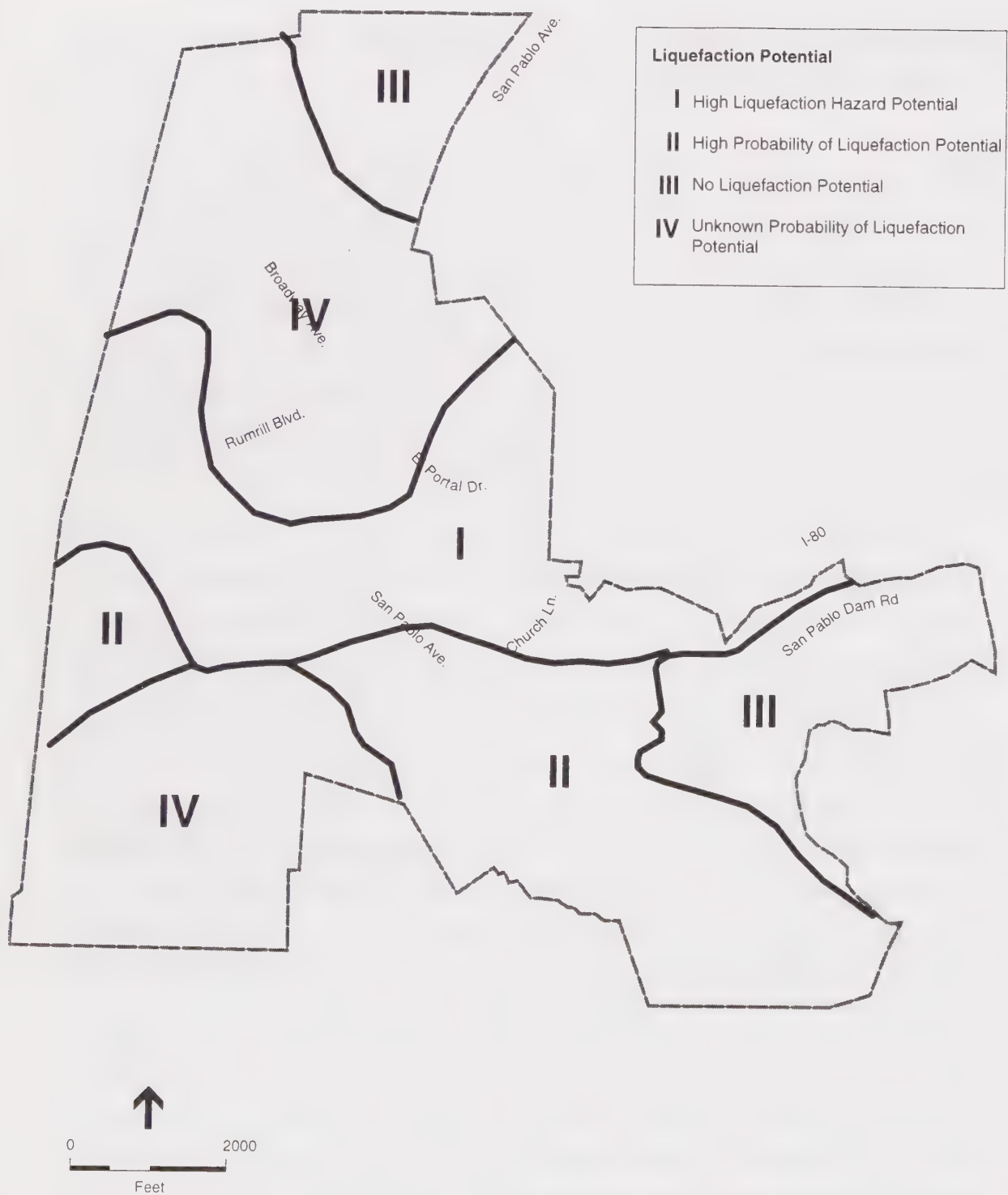
however, it is likely that the intensities would approach those for the scenario of a 7.1 magnitude event on the northern Hayward Fault described above.

#### Liquefaction

Liquefaction is the rapid transformation of saturated, loose, fine-grained sediment (such as silt and sand) to a fluid-like state because of earthquake ground shaking. The ground shaking induces a rapid rise in excess pore pressure and the soil loses its bearing strength, and it may spread laterally, undergo settlement and form fissures and sand boils (upwellings of sand at the surface). Liquefaction has resulted in substantial loss of life and injury, and damage to property, roads and infrastructure. In addition, liquefaction increases the hazards of fires because of explosions induced when underground gas lines break and because the breakage of water mains substantially reduces fire suppression capability.

Most of the lowland areas of San Pablo are mapped by the California Division of Mines and Geology (1987) as potentially having liquefaction hazards. Figure IV.J.4 shows the liquefaction potential of areas within the City. The Tri-Cities Seismic Safety and Environmental Resources Study indicates that liquefaction hazard in San Pablo varies from "*high liquefaction hazard potential*" in areas along the flood plain of San Pablo Creek and Wildcat Creek and in the northern part of the Central District and eastern part of the El Portal District, "*high probability of liquefaction potential*" in the South Entrance and Central Districts, "*unknown or probably absent*" in the Bayview District, the northern part of the Rumrill-Sheffield District and in the Old Town District, and "*no liquefaction potential*" in the Oak Park District and Bayview District. In the areas with some potential for liquefaction, liquefiable materials may lie at depth; even though surficial soils (which are generally high in clay) may not have liquefaction potential and, therefore, do not indicate the true nature of the hazard. As a rule, in areas where there is any potential for liquefaction, site specific studies are needed to determine the extent of the hazard.

Areas of lateral spreading and lurching also may be present where open banks and unsupported cut slopes provide a free face. Ground shaking, especially when inducing liquefaction, may induce lateral spreading toward unsupported slopes.



SOURCE: Tri-Cities Seismic Safety and Environmental Resources Study;  
Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

**Figure IV.J.4**  
Liquefaction Potential

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates



## Landsliding

The strong ground motions that occur during earthquakes are capable of inducing landslides and related forms of slope adjustments. Earthquakes generally induce land sliding only where unstable soil conditions already exist; the ground shaking provides a mechanism for ground movement. Thus, earthquake-induced landslide hazard areas are the same as those for which general landslide hazard is present. In San Pablo this hazard is primarily located in the Oak Park District and northern Bayview District.

## Inundation from Dam Failure

A portion of San Pablo located in and adjacent to San Pablo Creek is subject to potential hazard of inundation caused by a failure of dams in the headwaters. An earthquake is the most likely source of a dam failure, however, large landslides also could have a similar effect. San Pablo Creek is dammed at two locations in its headwaters. San Pablo Dam is located in the hills southeast of the city. A failure of San Pablo Dam would allow the reservoir to drain, potentially flooding the valley and lowland areas of the City of San Pablo. Briones Reservoir is the higher lying reservoir; if it were to fail, the waters would drain into San Pablo Reservoir, possibly causing an overtopping of San Pablo Dam. The amount of inundation would depend on the manner in which the dam were breached, the amount of time that the operators would have to respond and drain the reservoir, and the amount of water in the reservoir. The California Division of the Safety of Dams conducts inspections of the dams.

## Response of Structures to Earthquakes

All structures in San Pablo, including buildings, roads, bridges, paved areas, and impoundments, as well as surface and buried infrastructure, are subject to damage from large earthquakes. The degree of hazard depends in part on the seismic hazards of the site and partly on the type of structure, its materials and construction quality. Within San Pablo, earthquake damages to structures can be caused by ground rupture, liquefaction, lateral spreading/lurching, landsliding, ground shaking and possibly inundation from dam failure.

Fault Rupture Damage to Structures. All structures and infrastructure constructed across an active fault potentially could be severely damaged or destroyed by fault rupture and creep. Current structural engineering design, materials and construction methods offer few possibilities

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for reducing hazards of structures in zones of potential fault rupture; however, the risks remain high and no structure of even the best design could withstand a substantial displacement of the earth on a fault without experiencing severe damage and possible collapse. For this reason, avoidance is the best approach in zones having potential faults (i.e., Alquist-Priolo Earthquake Hazard Zones). This is especially true for critical structures (such as hospitals, schools, fire stations, and public buildings), residential buildings, and buildings with large occupancies.

Liquefaction Damage to Structures. Liquefaction hazards pose a substantial source of damage to all structures and infrastructure regardless of type. Where liquefaction is accompanied by lateral spreading and substantial settlement, the potential damages to structures and infrastructure can be dramatic. Much of the loss of life and the most severe damage to structures in the 1989 Loma Prieta Earthquake, 1994 Northridge Earthquake and the 1995 Kobe Earthquake resulted from liquefaction. Liquefaction can be managed through foundation design (e.g., through the use of friction piles bearing on competent materials at depth) and for some structures by spanning areas subject to liquefaction. Flexible materials can be used in some types of infrastructure that will allow a degree of resistance to damage from liquefaction-induced settlement and soil movement. Other measures are available to reduce the source of liquefaction through engineering of the soil medium and groundwater management. Most available technology for reducing liquefaction hazards is relatively expensive compared to construction on soils in which liquefaction hazard is absent.

Landslide Damage to Structures. Large landslides induced by earthquakes (or other causes) pose a significant hazard of damage and collapse to most structures. The extent of hazard is related in part to the position of the structure relative to the landslide. Structures constructed over the head of a landslide may collapse because of loss of foundation support. Structures constructed on the body of a landslide may be destroyed or damaged by the loss of foundation support and the overturning effects of the soil. Structures located at the toe of a landslide may be damaged or destroyed by being pushed over or buried by the landslide mass. Landslide hazard in some cases can be managed through foundation design (e.g., through the use of friction piles bearing in competent bedrock if the depth of unstable material is not too great) and for some types of structures by spanning areas of potentially unstable soils (if the landslide is not too broad). Other measures are available to reduce the cause of land sliding through engineering of the soil medium and slopes, and through surface water control and soil water management.

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Ground Shaking Damage to Structures. Ground shaking presents the most widespread hazards to structures and infrastructure because all parts of San Pablo could be affected by it. Ground shaking, however, is highly variable in intensity and type from one site to another because of the way geologic materials respond to earthquake vibrations. In addition, the effect of ground shaking on structures is related to the form and massing, foundation type, structural design, materials, construction quality and location relative to other structures. Much like the strings of a guitar, each structure has a unique set of natural frequencies at which it vibrates when disturbed by a transient load such as earthquake. The energy delivered by an earthquake to a building is strongly related to the natural frequency of the structure. To characterize these effects, engineers analyze the response of structures with different natural periods to specific earthquake ground motions; these are termed *acceleration response spectra*.

Since the mid-1970s, the Building Code in California has incorporated standard response spectra as a basis for structural design. The response spectra establish the minimum strength for which a building must be designed. The Uniform Building Code with California Amendments (UBC) (commonly referred to as the *Blue Book*) takes into consideration seismic forces and general considerations of site soil type. The UBC, however, considers primarily lateral forces in its design requirements; vertical forces are currently being considered for incorporation into the code design requirements, as observations made in recent earthquakes (e.g., the 1994 Northridge Earthquake and the 1995 Kobe Earthquake) suggest that greater vertical motions were measured than had been considered in structural designs. It is important to note that the UBC does not include provisions that are sufficient to prevent damage to buildings in a large earthquake. In fact, the UBC actually presumes damage and relies upon some allowable damage to control shaking within the structure. The objective of the UBC is to protect the life safety of building occupants and the public. For large earthquakes, the UBC primarily ensures that the building will not collapse, but some structural and non-structural damage may be expected.

Buildings constructed prior to the 1970's in most cases would not meet current design provisions for earthquake forces of the UBC. Following the 1971 Sylmar (San Fernando) Earthquake, major revisions were made to the seismic provisions of the UBC and other building codes. Modern construction provides a good level of protection for most site conditions. Most of the severe damage to buildings in the 1989 Loma Prieta Earthquake and 1994 Northridge Earthquake (and others) occurred in older buildings constructed prior to the 1970's (National Research Council, 1994; Earthquake Engineering Research Institute, 1994). The most severe hazards are presented by unreinforced masonry buildings constructed of brick or concrete block (which can



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no longer be constructed in San Pablo under the Building Code). Under the strong intensity of ground shaking expected in a large earthquake in San Pablo, many of these old structures may be expected to collapse or undergo sufficient damage to be "red-tagged" (required to be demolished). For this reason, most Bay Area communities, including San Pablo, have programs for identifying buildings of this construction type. Each building must be assessed as to whether it can be retrofitted to meet the requirements the Uniform Code for Building Conservation (UCBC). Other older building types of steel, concrete framing that were not designed to resist earthquake vibrations also may be severely damaged. Older reinforced brick and masonry structures also may be heavily damaged in large earthquakes; the extent of hazard depends on individual construction and specific site hazards. In contrast, light wood-frame and sheet metal buildings would be expected to have moderate damage in most conditions. Steel-frame structures designed to resist earthquake vibrations have an excellent record in earthquakes.

New construction in San Pablo would be required to meet the requirements of the 1991 UBC. The 1994 UBC, released in early 1995, has not yet been officially adopted in California, although this may occur in the near future. Table IV.J.1 identifies the expected damage levels to newly constructed buildings from ground shaking of moderate and large earthquakes. While these estimates represent general conditions in UBC Seismic Zone 4, they may be reasonably extrapolated to San Pablo, which is located in that zone. The estimates projected here specifically apply to buildings constructed to the requirements of the 1991 UBC; however, the Earthquake Engineering Research Institute (February 1994) notes that the damage ranges in Table IV.J.1 would apply to all UBC editions from 1976 through 1994.

Buildings of special occupancy are required to meet more stringent design requirements than the UBC. These include hospitals (which must meet the State's Title 24 requirements, as specified by the Hospital Seismic Safety Act), schools (under requirements of the Field Act), and other structures that are important to protecting health and safety in the community.

#### Regulatory and Policy Framework

The current San Pablo Open Space and Conservation Element contains one reference to policies related to erosion and protection of slopes, as follows:



TABLE IV.J.1: PERCENTAGE OF BUILDINGS EXPECTED IN EACH DAMAGE STATE FOR VARIOUS SHAKING INTENSITIES FOR BUILDINGS DESIGNED UNDER THE 1991 UNIFORM BUILDING CODE

<u>Earthquake Magnitude</u>		<u>Expected</u>	<u>Standardized Damage States/a/</u>				
<u>6.0 - 6.5</u>	<u>7.5 - 8.0</u>						
<u>Distance to Fault</u>		<u>MMI*</u>	<u>None</u>	<u>Slight</u>	<u>Moderate</u>	<u>Extensive</u>	<u>Complete</u>
30 mi.	50 mi.	VII	60 - 90%	10 - 40%	1 - 5%	<1%	0
5 mi.	40 mi.	VIII	35 - 60%	35 - 45%	10 - 30%	<5%	<1%
1 mi.	30 mi.	IX	25 - 40%	25 - 40%	20 - 40%	3 - 10%	<2%
--	3 mi.	X	5 - 25%	5 - 25%	40 - 70%	10 - 30%	<5%

/a/ Standardized Damage States:

*None* and *Slight* - No damage or minor damage to non-structural elements; only incidental hazard

*Moderate* - Primarily non-structural damage; also could be minor non-threatening structural damage; remote chance of life-threatening situation from structural elements

*Extensive* - Extensive structural and non-structural damage; localized life-threatening situations would be common

*Complete* - Complete collapse or damage that is not economically repairable; life-threatening situations in every building of this category.

\* Modified Mercalli Intensity

SOURCE: Earthquake Engineering Research Institute, February 1994. *Expected Seismic Performance of Buildings*, prepared by the EERI Ad Hoc Committee on Seismic Performance, Oakland, CA.

2. Control and Protection of Certain Landforms

- c. *Slopes*. As a soil conservation and flood prevention measure, the Element recommends that slopes exceeding 30 percent in steepness not be developed and that development on slopes of 15 to 30 percent be designed to control erosion and runoff.

The City's Stormwater Management Plan includes specific requirements related to erosion control and grading.

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The current Seismic Safety Element contains a number of policies (referred to as proposals) related to seismic safety. The major objective of the element is to, "Reduce loss of life, injuries, damage to property and economic and social dislocation resulting from any future earthquakes." The policies range in breadth. The major proposals of the Seismic Safety Element are listed (or summarized) as follows:

1. Maintenance and Dissemination of Seismic Safety Information

- a. *Printing and Distribution of Seismic Safety Report.* (Refers to City reprinting of the 1973 Tri-Cities Seismic Safety Study.)
- b. *Dissemination of Seismic Safety Information.* Geologic and structural hazard information relating to private development should be readily available. The City of San Pablo should establish a procedure for informing residents, businesses, property owners and prospective property owners of seismic hazards.
- c. *Maintenance of Seismic Safety Information.* (Refers to maintaining a City-wide database.)
- d. *Collection of Structural Hazards Information.* (Refers to cataloguing information on structural hazards and expanding the survey to include other hazards; refers to placing and monitoring fault movement gauges.)

2. Disaster Preparedness Program

- a. *Development of Joint Tri-Cities Area Disaster Preparedness Program.* (Refers to development of a joint-action disaster preparedness program.)
- b. *Establishment of Emergency Operating Centers.* (Refers to establishment of a center where key executives can direct and control emergency operations.)
- c. *Public Education Relating to Natural Disasters.* (Refers to establishing a program for giving emergency instructions and information to the public.)
- d. *Radio Communication for Western Contra Costa County Emergency Facilities.* (Refers to establishing a communications network among western Contra Costa County's essential services (such as hospitals)).
- e. *Role of Disaster Preparedness Planning Within Local Government.* (Refers to improving the City's own disaster planning program, and to conducting practice drills.)
- f. *Local Disasters Preparedness Review and Recommendation Authority.* (Refers to designating a body as the official reviewer of the local disaster preparedness program.)

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- g. *Holding of Joint Earthquake Response Exercise.* (Refers to holding a full-scale western Contra Costa County simulated Earthquake Exercise.)

3. Public Facilities Owned by the City of San Pablo

- a. *Structural Evaluation of the City Hall.* A detailed structural investigation of City Hall of San Pablo should be made by a structural engineer.
- b. *Structural Review of all Public Buildings.* (Refers to periodic structural review of any building which houses the vital government functions necessary to coordinate post-disaster activity.)
- c. *Condition of Fire Stations.* (Refers to the San Pablo Fire District performing a detailed investigation of all fire stations, and reinforcing or abandoning stations that would be rendered inoperable in an earthquake.)
- d. *Public Facilities in Fault Zone Areas.* (Refers to undertaking geologic studies for all public buildings and structures located in a Fault Zone Area, and to implementing corrective measures.)

4. Other Public and Semi-Public Facilities and Utilities

- a. *Schools.* (Refers to a structural investigation of schools, and a more detailed review and corrective by the School District where appropriate.)
- b. *Information from Utilities.* (Refers to evaluations by utility districts of their facilities and reports of their planned corrective efforts.)
- c. *Safety and Churches.* Although the churches in the Tri-Cities Area are generally located in fairly good geological areas and have low potential for hazard caused by construction deficiencies, the structural engineers' report should be made available to the churches for their review.

5. Structural Hazards in Private Buildings

- a. *Dangerous Buildings Abatement Program.* (Refers to establishing a program to identify buildings that would lead to loss of life in an earthquake and to retrofit or demolish them. Emphasis on high-occupancy buildings constructed before 1933.)
- b. *Dangerous Parapets, Signs, Glass, Marquees, and General Ornamentation in Commercial Areas.* All large signs, marquees, and general ornamentation present in commercial areas should be reviewed in detail in accordance with the latest practices and experiences. (Refers to adopting an ordinance to eliminate or reinforce hazardous parapets.)

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6. Land Use and Development Regulations

- a. *New Development Regulations.* (Refers to implementing land use techniques to restrict uses that may be subject to undue risk in geologically hazardous areas, while recognizing the need to minimize the cost of new housing.)
- b. *Appraisal of Individual Development Projects.* (Refers to resolving seismic and other problems at the earliest stage of project approval, and to detailed study in Environmental Impact Reports.)
- c. *Creation of Geologic Hazards Special Management Areas.* (Refers to adopting regulations for development within the fault zone and landslide areas.)
- d. *Adoption of Uniform Building Code.* (Refers to adoption of the 1973 Uniform Building Code.)

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project normally will have a significant effect on the environment when it would:

- cause substantial flooding, erosion, or siltation; or
- expose people or structures to geologic hazards.

Based on Appendix I of the CEQA *Guidelines*, a project could have a significant impact if it were to result in:

- unstable earth conditions, or changes in geologic substructures;
- disruptions, displacements, compaction, or overcovering of soil;
- change in topography or ground surface relief features;
- the destruction, covering or modification of any unique geological or physical features;
- any increase in wind or water erosion of soils, either on or off the site;
- changes in deposition or erosion of beach sands; or changes in siltation, deposition or erosion which may modify the channel of a river or stream, or the bed of the ocean or any bay, inlet, or lake; or



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- exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards.

These considerations were used as the criteria for evaluating the significant impacts of the San Pablo General Plan Update.

Impacts

**Impact Geology-1: Development consistent with the updated General Plan would increase the number of people exposed to the area's earthquake hazards and would involve construction of structures and facilities in an earthquake-prone area, characterized by a high probability of strong ground shaking. Strong ground shaking poses a threat to the structural integrity of all developed structures in the City, and thereby poses a life-safety hazard to people occupying or near developed structures. Ground shaking further would be expected to result in significant damage to older structures, such that cumulative impacts would be substantial. This would be considered a significant impact.**

Development consistent with the updated General Plan would be affected by strong ground shaking due to a moderate to severe earthquake in the Bay Area. Any development within the City is likely to experience "extreme" or "heavy" ground shaking intensity from a major earthquake within its design life. Severe damage to structures, especially collapse, is the primary cause of death and injury in major earthquakes. Under the Plan, increased resident and worker population would be present in San Pablo in comparison to existing conditions (see Section IV.C, Population, Employment and Housing) and would be exposed to potential injury from earthquake induced damage to buildings and other structures. (Note that there also is expected to be an increase in population under the existing General Plan; Chapter VI, Alternatives, evaluates the potential earthquake hazards related to that scenario.) The UBC would require new development to incorporate seismic safety design features to resist collapse. However, structures constructed under the requirements of the UBC may undergo substantial structural and non-structural damage from earthquakes that may pose a hazard to life-safety (see Table IV.J.1) Additionally, structural damage to buildings designed and constructed consistent with the UBC may be sufficient to warrant their demolition following an earthquake.

It is a common misperception that design in conformance with the UBC eliminates the hazard of damage and thereby prevents loss of life and injury. Nonetheless, while conformance with the UBC may not eliminate life safety hazards, if current design requirements are carefully implemented in new structures and the structures are built well (consistent with Action PS 1.G of the Public Safety and Services Element), a significant reduction in loss of life, injury and major

damage should be anticipated for those structures. As new construction replaces older, and in particular poorly constructed buildings, a cumulative reduction in the hazard would result.

In a major earthquake, damage to "older" structures (generally defined here as pre-1971) from ground shaking likely would be substantially greater than that affecting new construction that meets much more stringent design/construction/materials standards<sup>7</sup>. The updated General Plan does not contain any specific provisions to regulate use of, or require modification of, existing older construction with regard to earthquake hazards. Action PS 1.E of the Public Safety and Services Element (Regulatory - Building Structural Safety: Existing Conditions) promotes a general commitment to application of the Uniform Code for Building Conservation, and Action PS 1.F (Regulatory - Building Structural Safety: Existing Construction) provides for identification of and the seeking of funds to retrofit (or replace) those existing structures that are deemed as subject to serious structural damage, having high occupancy, and/or containing substantial hazardous substances. If at least some success is achieved in obtaining the necessary funding, it may be assumed that Action PS 1.E and Action PS 1.F would have a beneficial impact on reducing earthquake hazards in San Pablo. The prioritization of funding focuses on unreinforced masonry buildings (URMs) and public buildings.

However, given the significant budget shortages in both the state and federal governments, it is unlikely that substantial funding for seismic retrofits of older buildings will be allocated to the City from those sources. Some retrofits may be funded by private owners or other sources. The proposed Plan provides a number of earthquake disaster education and preparedness provisions which may stimulate building owners to voluntarily undertake retrofits, but the overall result is speculative. Therefore, conservatively considered, it is assumed that during the term of the planning period which the General Plan Update covers, many (if not most) of the existing seismically constrained buildings would remain without substantial structural upgrades and foundation improvements that would make them resistant to earthquake ground shaking and other secondary effects (such as liquefaction). As a consequence, if a major earthquake were to occur during the design planning period, substantial damage to older structures may be expected on a widespread basis. Damage to older structures also could affect the new structures and their occupants by adding to hazards of fires that may spread to new buildings, by physical collapse onto new buildings, by blocking of emergency response access routes, spread of fire, and by other disaster effects that cumulatively would be expected to affect most of San Pablo.

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<sup>7</sup> This is not to imply that all older structures are unsafe or that they would collapse in a major earthquake. Earthquake response of each structure would be expected to depend on the design and quality of construction.

**Impact Geology-1: Mitigation Measures Proposed as Part of the Updated General Plan:**

The following are proposed as part of the Public Safety and Related Services Element:

**Policy PS 1.1: Public Education and Disaster Awareness**

**Policy PS 1.2: Disaster Preparedness**

**Policy PS 1.3: Regulatory Actions**

**Action PS 1.A: Hazardous Safety Zone Map and Users Guide**

**Action PS 1.B: Information Resource Center**

**Action PS 1.C: Public Education Safety Strategy**

**Action PS 1.D: Update the Multi-Hazard Functional Plan (MHFP)**

**Action PS 1.E: Regulatory - Building Structural Safety: Existing Conditions**

**Action PS 1.F: Regulatory - Building Structural Safety: Existing Construction**

**Action PS 1.G: Regulatory - Building Structural Safety: New Construction**

**Action PS 1.H: Regulatory - New Construction Within Special Studies Zone**

**Action PS 1.I: Regulatory - New Construction in Unstable Soil Areas and Adjacent Creeks**

**Impact Geology-1: Mitigation Measures Identified in the Growth Management or Housing Elements of the Current *General Plan***

None identified.

**Impact Geology-1: Additional Mitigation Measures Identified in this EIR**

**Geology-1a:** Adopt a policy of requiring seismic upgrades for any building for which an application for a change of use that would allow a higher level of occupancy (a change in occupancy class, or land use category) is requested or for which is proposed substantial use/handling/storage of hazardous substances.

**Impact Geology-1: Significance After Mitigation**

Under the Plan, the risk of substantial damage to buildings from ground shaking in a major earthquake could not be eliminated and the level of risk would remain high throughout the City. Implementation of the Plan with the mitigation measures listed above would reduce the impact and lead to a more acceptable level of risk; as consequence the impact would be reduced to a less-than-significant level.

**Impact Geology-2: Development consistent with the updated General Plan would increase the number of persons exposed to risk of injury, death or property damage resulting from surface fault rupture. The impact is significant.**



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Any structure, utility, or roadway straddling a fault is subject to physical displacement as the sides of the fault move relative to each other. The displacement may occur slowly as a result of creep, resulting in gradual damage to buildings and other structures, or displacement may occur rapidly during a large earthquake and result in the collapse of buildings, rupture of pipelines, and destruction of roadways. Ground rupture poses a threat to all structures that is difficult, if not infeasible, to mitigate through design and the best available construction methods and materials. The Hayward Fault is included within an Alquist-Priolo Earthquake Fault Study Zone (shown in Figure IV.J.3). Any development within this zone may be subject to potential hazards associated with fault rupture, although detailed geologic studies would be needed to determine if the trace of an active or potentially active fault or a splinter of the fault is in fact present.

Action PS1.A of the Public Safety and Services Element (Hazardous Safety Zone Map, cited in the mitigation measures above) does not specify regulation over development in the Alquist-Priolo Zone; rather it invokes restrictions imposed by State or federal law for certain types of uses (e.g., the Field Act) and suggests that further regulation will be developed by the City. The Plan recognizes the high degree of hazard potentially posed by development in this zone but stops short of identifying specific prohibitions for development (except for critical facilities and residential uses).

Interpreted narrowly, new development of almost any type (except critical facilities and residences) consistent with the Plan's land use designation could occur in this zone provided a fault trace is not identified at the development site. However, some forms of new development in effect could be prohibited because of the presence of an extraordinary high risk that may not be fully eliminated by geologic studies and because of higher development costs. In a major earthquake, substantial damage to structures would be expected in this zone with potentially significant loss of life and injury. For this reason, the safest use of this zone probably is for land uses that do not concentrate people in large numbers or for long periods of time.

Because critical facilities (schools, fire stations, hospitals, and others) by definition should remain functional immediately following an earthquake, there is little justification to consider their development within the Zone. This is in part recognized by Action PS1.H of the Public Safety and Services Element (Regulatory - New Construction Within Special Studies Zone, cited in the mitigation measures above).



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The Plan does not provide for siting of any critical facilities in the zone, but does allow residential uses (including high density and medium density residential uses), and institutional uses (the existing Contra Costa College) that may include occupancy at high levels. (In addition, a portion of the El Portal Center/ Public Transit Mixed Use District is within the Zone.) While State and federal law do not specifically prohibit development of critical facilities or residences in an Earthquake Fault Zone (the prohibitions refer specifically to development over and immediately adjacent to an active or potentially active fault trace), the risk of severe damage associated with such zones is recognized to be very high and their development is discouraged.

The Plan does not address residences that exist at present on the Zone. Risks to these structures and their occupants would remain high both from possible ground rupture and high intensity ground shaking. The Plan also does not address lifeline infrastructure (water supply lines, wastewater mains, natural gas and oil lines, electric power and communication systems) that could be rendered nonfunctional in a major earthquake if sufficient displacement were to break them or severely impair their operation. Water supply, wastewater and natural gas distribution systems are especially prone to damage from earthquakes, especially where soil movements occur (National Research Council, 1994). A rupture of water mains in a major earthquake could severely limit the ability of the Fire Department to control fires; multiple fires would be anticipated to occur throughout the City. EBMUD currently is undertaking a large scale seismic retrofit program for its water and wastewater system, including the crossings of the Hayward Fault.

#### **Impact Geology-2: Mitigation Measures Proposed as Part of the Updated General Plan:**

The measures proposed as part of the Public Safety and Related Services Element (Policies PS 1.1, PS 1.2, and PS 1.3 and Actions PS 1.A, PS 1.B, PS 1.C, PS 1.D, PS 1.E, PS 1.F, PS 1.G, PS 1.H, PS 1.I) and discussed in Impact Geology-1 would apply to mitigation of uses subject to fault rupture.

#### **Impact Geology-2: Mitigation Measures Identified in the Growth Management or Housing Elements of the Current General Plan**

None identified.

#### **Impact Geology-2: Additional Mitigation Measures Identified in this EIR**

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Mitigation measure 1a and 1b proposed as *Additional Mitigation Measures Identified in this EIR* for Impact Geology-1 also would apply to this impact.

**Geology-2a:** No new critical facility or new residence should be permitted in areas subject to ground rupture (i.e., within the Alquist-Priolo Special Studies Zone) until an evaluation of alternative sites with reduced earthquake and flood hazards is completed. In areas outside the Special Studies Zone but subject to ground failure (especially liquefaction and landsliding), require studies assessing the specific degree of hazard and identifying measures to reduce the hazard to an acceptable level, and require that these measures be implemented prior to development. For each proposal, require a feasibility study to determine whether any proposed critical facilities (emergency response centers, police stations, and hospitals) and schools could be sited in areas with lesser earthquake hazards. An alternative site feasibility assessment should include a consideration of sites in areas with lesser earthquake (and flood) hazards in addition to considerations of service area, accessibility, and economic considerations.

**Geology-2b:** For projects proposed in areas subject to ground rupture and ground failure, and especially those that would concentrate people in large numbers or involve the use/handling/storage of a substantial amount of hazardous substances, conduct geotechnical studies and structural design evaluations for all structures and facilities.

If the alternative site feasibility study for a facility were to indicate that other less hazardous sites are not available for it, then geotechnical studies and structural design processes for the facility would be conducted in compliance with State of California requirements and recommendations of the Seismic Safety Commission and federal requirements as applicable. These could include detailed studies of the geologic materials at the site, location of nearest fault traces, seismic event response evaluations to identify design criteria, foundation design criteria and dynamic method analyses of proposed structures, and others. As these studies are costly and the resulting foundation and structural designs are often expensive to construct, it is recommended that the alternative site feasibility study be conducted first.

A rigorous geotechnical evaluation and structural design process would be required to ensure that the proposed structures would perform in major earthquakes without creating a life safety hazard to occupants or people in surrounding areas.

**Geology-2c:** Consistent with State law, require a site-specific soils investigation for every new development in the Alquist-Priolo Earthquake Fault Zone (where required by the Alquist-Priolo Special Studies Zone Act) with review by the California Division of Mines and Geology.

**Geology-2d:** As part of Policy PS 1.2, integrate into the Multi-Hazard Functional Plan a critical facilities and lifeline systems vulnerability study for the entire City to deal with the specific effects of seismic-induced ground rupture in the Alquist-Priolo Zone, and ground shaking, liquefaction, lateral spreading/lurching and landslide hazards elsewhere in the City. The study should identify specific facilities and their vulnerabilities to damage, the implications for emergency response and normal operations, and recommendations for

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upgrades, redesign or relocation planning. The study should be coordinated with EBMUD, PG&E, and telecommunication companies.

**Geology-2e:** In accordance with State mandates, assure that the possibility of fault movement is considered in the design of all roadways and utility lines, including gas and oil, which must be crossed through, and all important facilities which must be located within the Alquist-Priolo Earthquake Fault Zone.

#### **Impact Geology-2: Significance After Mitigation**

Although the risk of substantial damage from fault rupture would not be eliminated, implementation of the mitigation measures listed above would reduce the risk to an acceptable level; therefore, the impact would be reduced to a less-than-significant level.

**Impact Geology-3: Development consistent with the updated General Plan would increase the number of people and structures exposed to unstable soils including those subject to earthquake induced liquefaction, lateral spreading and landslides. Development consistent with the updated General Plan in some upland areas could result in changes in topography and construction on steep slopes in some areas that would enhance landslides or mudslides. This would be a significant impact.**

Figure IV.J.2 shows the medium and high landslide risk areas and Figure IV.J.4 shows areas subject to liquefaction. Slope instabilities in areas of steep slopes and previous landslides could be aggravated by development such as changes in topography that increased relief or steepness of slopes, particularly artificially cut slopes. Landslides typically are triggered by saturation of the soil during periods of protracted or particularly intense rainfall. Loading of such slopes with structures (buildings and roads) could induce soil movement. Construction at the base of a landfill could undermine the toe of the slope and trigger a landslide. Slope failures could also be triggered by seismically induced ground shaking, especially if a major earthquake were to coincide with the rainy season when the soils are saturated. Earthquake-induced landslides most commonly occur in areas already susceptible to landslides due to other geologic factors. Earthquakes may trigger landslides that might not otherwise occur until a later time of soil saturation. Ground shaking could reactivate existing slides and trigger new slides.

Liquefaction hazard would be greatest for development in the lower-lying portions of the City. Development of the El Portal Public/Transit District mixed uses, some existing institutional uses and a small area of industrial development would be located in the areas of highest liquefaction hazard. A number of proposed mixed/use special district developments also would be subject to high liquefaction hazards including all of the Rumrill Boulevard, all of the Alvarado District and



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Entertainment/Regional Serving District, and a small section of both the 23rd Street District, the Market Avenue District and western San Pablo Dam Road District. Liquefaction hazards also would affect other uses included in the Plan. While damage from liquefaction would not be as widespread as those caused by ground shaking in San Pablo, the potential impacts could be equally devastating to structures affected by it. Additionally, structures affected by liquefaction would also be subject to strong ground shaking at the same time, and in some areas the liquefaction may be accompanied by lateral spreading and lurching. The loss of soil support accompanying liquefaction and/or the shifting of soil during lateral spreading and lurching, potentially could cause extensive damage to foundations, and in severe cases collapse of the structure. In general, liquefaction tends to be somewhat erratically distributed and is commonly observed to severely damage some structures, while adjacent structures are unaffected. Therefore, the liquefaction hazard is likely to be site-specific within the broader area of general potential hazard. For this reason, site specific geologic studies are needed to properly identify whether conditions conducive to liquefaction are present. In most cases, proper identification of the hazard through geologic studies, combined with measures to support the foundation in deeper-lying firm soils (e.g., support on piles) or to engineer the soil to eliminate the hazard (e.g., excavation, re-working of the soils, dewatering, pressure grouting, etc.), can significantly reduce the hazard. These studies and the required mitigation add substantially to the cost of development.

Liquefaction, lateral spreading/ lurching and landsliding could result in extensive damage as well to roads and infrastructure. The loss of water supply lines could substantially impair fire suppression efforts after an earthquake. Damage to streets from liquefaction may render them impassable and landslides could block street access.

#### **Impact Geology-3: Mitigation Measures Proposed as Part of the Updated General Plan**

The measures proposed as part of the Public Safety and Related Services Element (Policies PS 1.1, PS 1.2, and PS 1.3 and Actions PS 1.A, PS 1.B, PS 1.C, PS 1.D, PS 1.E, PS 1.F, PS 1.G, PS 1.H, PS 1.I) and discussed in Impact Geology-1 would apply to mitigation of unstable soils, since liquefaction is caused by earthquakes and landslides often are triggered by earthquakes.

The following is proposed as part of the Environmental Resources Management Element:

#### **Hillside - Action ER 1.F: Hillside Design Guidelines**



**Impact Geology-3: Mitigation Measures Identified in the Growth Management or Housing Elements of the Current *General Plan***

None identified.

**Geology - 3: Additional Mitigation Measures Identified in this EIR**

Mitigation Measures Geology-2a, 2b, 2d and 2e also apply to the impacts related to unstable soils. The City also should condition approval of individual development proposals on the following mitigation measures:

**Geology-3a:** Site new structures away from steep hillsides and the toes of existing landslide surfaces, reducing the potential for damage from landslide movement or burial. Require developers of projects in the hazard area to perform site-specific slope stability analyses, including field estimation of the soil properties significant to slope stability, for those parcels or portions thereof identified as having the steepest slopes or greatest potential for landslides and recommended engineering design to reduce the hazard to an acceptable level of risk. The report should be approved by the City Geologist prior to permitting the project.

**Geology-3b:** Development consistent with the updated General Plan shall minimize the potential for creating new landslides or reactivating old ones.

**Geology-3c:** As part of Policy 1.2, prepare or update an Earthquake Preparedness and Emergency Response Plan for the City to deal with the specific effects of seismic-induced liquefaction, lateral spreading, landsliding, fault rupture, and ground shaking.

**Impact Geology-3: Significance After Mitigation**

Although the risk of substantial damage from unstable soils would not be eliminated, implementation of the mitigation measures listed above would reduce the risk to an acceptable level; therefore, the impact would be reduced to a less-than-significant level.

**Impact Geology-4: Development consistent with the updated General Plan could expose people and structures to the hazard of inundation from dam failure. This would be a significant impact.**

The amount of inundation would depend on how much water is in the reservoir at the time of dam failure, the amount of time that the operators would have to respond and drain the reservoir or take corrective measures, and the size of the breach in the dam. Depending on the nature of the damage and the rate of draining, potential flooding could occur in the valley and lowland

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areas of the City of San Pablo. Areas closest to San Pablo Creek would be the most exposed and likely to have the highest property damage and injury to people. Under the updated General Plan, most of the immediate creek area would be in open space uses and, if the inundation were restricted to that area, the exposure to people and structures would be relatively low. A more rapid and larger draining could spread over adjacent areas of the Alvarado Mixed Use District, El Portal/Public Transit Mixed Use District, institutional uses and residential areas, where damage and injuries would be much greater.

**Impact Geology-4: Mitigation Measures Proposed as Part of the Updated General Plan**

The measures proposed as part of the Public Safety and Related Services Element (Policies PS 1.1, PS 1.2, and PS 1.3 and Actions PS 1.A, PS 1.B, PS 1.C, PS 1.D, PS1.E, PS 1.F, PS 1.G, PS 1.J, PS 1.K) discussed in Impacts Geology-1 and Hydrology-1 (see Section IV.I, Hydrology and Water Quality) would also apply to flooding from dam failure. It should also be noted that the California Division of the Safety of Dams conducts inspections of dams.

**Impact Geology-4: Mitigation Measures Identified in the Growth Management or Housing Elements of the Current *General Plan***

None identified.

**Impact Geology-4: Mitigation Measures Identified in this EIR**

None required.

**Impact Geology-4: Significance After Mitigation**

Although the risk of inundation from dam failure would not be eliminated, implementation of the mitigation measures listed above in conjunction with ongoing periodic inspections conducted by the California Division of the Safety of Dams would result in an acceptable level of risk; as a result, the impact would be reduced to a less-than-significant level.

**Impact Geology - 5: Development consistent with the updated General Plan could accelerate natural erosion of native soils and fill by wind and water. If uncontrolled, increased erosion could undermine structures and eroded soils could increase sedimentation in area creeks and eventually in San Pablo Bay. This would be considered a significant impact.**

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Refer to Impact Hydrology-2 for further explanation of impacts from erosion. Mitigation measures described under Impact Hydrology -2 would reduce the impact to a less-than-significant level.

##### Less-Than-Significant Impacts

Land use designations consistent with the updated General Plan and proposed policies and actions would not affect unique geological or physical features, would not result in modifications of stream channels or water bodies and would not prevent exploitation of any identified mineral, oil, gas, or geothermal resources, or aggregate and natural construction materials.

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## K. AIR QUALITY

### SETTING

#### Outdoor Pollutant Levels

As with other cities in the Bay Area, San Pablo needs to be concerned about the outdoor levels of ozone ( $O_3$ ), carbon monoxide (CO), and particulate matter ( $PM_{10}$ ). These pollutants are of concern because the San Francisco Bay Area Air Basin, in which San Pablo is located, does not meet the federal standard (for CO) and/or State standard (for  $O_3$  and  $PM_{10}$ ) for each of these pollutants (CARB, 1995). (The federal and State standards are discussed in Appendix F.) San Pablo and the Bay Area meet both the federal and State standards for other pollutants that could be of concern, i.e., nitrogen dioxide ( $NO_2$ ), sulfur dioxide ( $SO_2$ ) and lead (Pb), so information on these other pollutants is not reported in this section.  $O_3$ , CO,  $PM_{10}$ ,  $NO_2$ ,  $SO_2$ , and Pb are referred to as "criteria" air pollutants because ambient air quality standards have been established for them based on specific public health and welfare criteria set forth under State and federal air quality legislation.

The Bay Area Air Quality Management District (BAAQMD) regional air quality monitoring network tracks the outdoor levels of pollutants. Table IV.K.1 is a five-year summary of the highest annual pollutant concentrations (levels), collected at the BAAQMD's air quality monitoring station on 13th Street near Costa Avenue in Richmond. This station is immediately adjacent to the San Pablo city limit, so the results should give a good indication of what outdoor air quality is like in San Pablo. In Table IV.K.1 the air pollutant levels are compared with the State air quality standards. Levels that exceed the State standards are underlined in the table.

The data reported in Table IV.K.1 (when compared with the State standards shown in the table and the federal standards in Appendix F) show the following:

- The State ozone standard and the Federal ozone standard have both been violated on one day over the past five years at the Richmond 13th Street monitoring station.
- The State and Federal carbon monoxide standards have not been violated over the past five years at the Richmond 13th Street monitoring station.

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TABLE IV.K.1: RICHMOND AIR POLLUTANT SUMMARY, 1990-1994/a/

Pollutant	Std./c/	Monitoring Data by Year /a/				
		1990	1991	1992	1993	1994
<u>Ozone (O<sub>3</sub>):</u>						
Highest 1-hr. average, ppm/b/ Days /d/	0.09	0.06 0	0.05 0	0.08 0	<u>0.12</u> 2	0.09 0
<u>Carbon Monoxide (CO):</u>						
Highest 1-hr. average, ppm Number of excesses	20	7 0	7 0	5 0	9 0	NP/f/ 0
Highest 8-hr. average, ppm Number of excesses	9.0	4.0 0	4.5 0	4.1 0	3.8 0	2.9 0
<u>Particulate Matter (PM<sub>10</sub>):</u>						
Highest 24-hr. average, µg/m <sup>3</sup> /b/ Days/Samples/e/	50	<u>109</u> 5/61	<u>97</u> 9/59	<u>55</u> 3/61	<u>76</u> 3/61	NP/f/ 3/60
Annual Geometric Mean, µg/m <sup>3</sup>	30	23.0	24.4	23.4	21.3	22.0

/a/ All data are from the monitoring station on 13th Street in Richmond, adjacent to the San Pablo City limit. Data are considered to be representative of conditions in San Pablo.

/b/ ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

/c/ State standard, not to be exceeded.

/d/ Days refers to the number of days during which excesses of the state standard were recorded in a given year.

/e/ Particulate is usually measured every sixth day (rather than continuously like the other pollutants). "Days/samples" indicates the number of excesses of the state standard that occurred in a given year and the total number of samples that were taken that year.

/f/ NP = Data not yet published.

NOTE: Underlined values are in excess of applicable standard.

Data for NO<sub>2</sub>, SO<sub>2</sub>, and lead are not presented because the standards have been met for the past five years at Richmond and because the San Francisco Bay Area Air Basin is designated as attainment for these pollutants.

SOURCE: California Air Resources Board, *Air Quality Data Summaries*, 1990-1993, BAAQMD, *Air Currents*, April 1995.

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- The State particulate matter standards have been violated regularly at the Richmond 13th Street monitoring station during the past five years. The federal particulate matter standards have not been violated at the Richmond station over the past five years. In addition, particulate matter concentrations are likely to increase in the future due to an overall increase in vehicle miles traveled within the region.

The results in the table indicate that air quality in the San Pablo area is generally good, although levels of particulate matter will continue to be a concern. Although carbon monoxide levels at the monitoring station are lower than the State standard, carbon monoxide could still be a concern in certain "hot spots," such as locations where there are a lot of cars (congested intersections, for example). Ozone is more of a regional issue, and because the entire region is still not meeting the State standard for ozone, that pollutant is still an issue in San Pablo (because land uses or activities in San Pablo could be contributing toward the regional ozone problem).

##### Pollutant Causes and Effects

The following paragraphs discuss some of the causes and effects of ozone, carbon monoxide, and particulate matter. The discussion indicates that cars are a major source of pollution in San Pablo and the Bay Area.

##### Ozone (O<sub>3</sub>)

Ozone is not emitted directly into the atmosphere, but is produced through a complex series of reactions involving sunlight, hydrocarbons (HCs) and nitrogen oxides (NO<sub>x</sub>). Significant ozone production generally requires about three hours in a stable atmosphere with strong sunlight. Ozone is a regional air pollutant because its precursors are carried and spread by wind at the same time ozone is being produced. Motor vehicles are the major source of ozone precursors (pollutants that can create ozone) in the Bay Area. Ozone causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate lung conditions in persons with lung disease. Ozone also damages vegetation and untreated rubber.

##### Carbon Monoxide (CO)

Carbon monoxide is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances. About 66 percent of the carbon monoxide emitted in the Bay area comes from motor vehicles (ABAG, 1994). Ambient carbon monoxide concentrations normally correspond closely to the locations and levels of vehicle traffic. Carbon monoxide concentrations also are influenced by wind speed and wind currents. During an inversion,

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carbon monoxide concentrations may be spread more uniformly over an area out to some distance from vehicular sources. High concentrations of carbon monoxide can make it harder for the human body to absorb oxygen into the bloodstream, thereby aggravating heart disease and causing fatigue, headaches, and dizziness.

##### Particulate Matter (PM<sub>10</sub>)

Particulate matter consists of particulates 10 microns (one micron is one-millionth of a meter) or less in diameter. These small particles can remain suspended in the air, are carried by winds, and can be inhaled and cause adverse health effects. Particulates in the atmosphere result from many kinds of dust- and fume-producing industrial and agricultural operations, combustion, and atmospheric reactions. Demolition, construction, and vehicular traffic are major sources of particulates in urban areas. Natural sources of particulates include those "picked up" by wind from exposed surfaces. Particulate concentrations near residential sources generally are higher during the winter, when more fireplaces are in use and weather conditions prevent the spreading of emissions. A recent study found that woodsmoke from fireplaces are the source of approximately 40% of ambient particulate matter concentrations during the winter (BAAQMD, 1992).

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain certain gases (e.g., chlorides or ammonium) that may be harmful to health. Particulates also can damage materials and reduce visibility.

##### Existing Stationary Sources of Criteria Air Pollutants

Major stationary sources of air pollution are inventoried by the BAAQMD in their Base Year 1990 Emission Inventory Summary Report.<sup>1</sup> Facilities identified as "major emitting facilities" in 1990 and located in San Pablo include Brookside Hospital and Myers Container Corporation. Major emitting facilities in 1990 located in Richmond include oil refineries, chemical companies, and other general industrial uses. The source in Richmond with the highest emissions is Chevron USA, located southwest of San Pablo (BAAQMD, 1993).

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<sup>1</sup> Major emitting facilities are those facilities that emit more than 0.05 tons/day (100 lbs/day) of any criteria pollutant.



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###### Toxic Air Contaminants (TACs)

"Toxic air contaminants" differ from "criteria air pollutants" just discussed in that there are no established outdoor standards (a risk assessment approach is used instead). Toxic air contaminants may cause cancer-related effects, in addition to adverse non-cancer-related health effects. The major source of toxic air contaminants contributing to ambient risk in the Bay Area is motor vehicles, while the chemicals that contribute most to the risk due to measured ambient levels are benzene (39 percent) and 1,3 Butadiene (28 percent) (BAAQMD, 1995a).

The BAAQMD's Toxic Air Contaminant Control Program, *Annual Report 1994* lists the major sources of toxic air contaminants in the Bay Area. Sources of toxic air contaminants in San Pablo cited in this report include the Brookside Hospital, two dry cleaners (El Portal One Hour Cleaners And Laundry at 2655 Church Lane and Gordon's Cleaners/El Pond's at 2071 23rd Street), and Myers Container Corporation at 900 Brookside Drive (BAAQMD, 1995a). There are 32 sources of toxic air contaminants in Richmond cited in the report; the sources with the highest emissions are the Chevron Chemical Company and Chevron USA, southwest of San Pablo. Of the 32 sources, 8 are dry cleaners (BAAQMD, 1995a).

###### Weather and Pollution

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions also are important. Atmospheric conditions such as wind speed, wind direction, and air temperature interact with the physical features of the landscape to determine the movement and dispersal (spreading) of air pollutants.

The climate in the San Pablo area is Mediterranean in character, with mild, rainy winter weather from November through March, and warm, dry weather from May through September. Persistent subsidence inversions (i.e., warmer air layer acting as a type of cap on the underlying cooler air layer) do occur in the San Pablo area, especially during fall and winter, and act to "trap" pollutants released near ground level. The topographical features that contour the area include the Golden Gate, which provides an inlet for coastal winds that serve to channel surface air flow and disperse pollutants, and which also provides an inlet for coastal fog.

Winds in the area (measured at a meteorological station in San Pablo) are typically out of the south and southwest. These wind directions account for approximately 52 percent of all winds

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throughout the year (CARB, 1984). Wind speeds are highest during summer and lowest in winter. The annual average wind speed recorded in San Pablo is 7.3 miles per hour. Typical wind flows would tend to bring pollutants from the Richmond area into San Pablo, and take pollutants generated in San Pablo to the north and northeast. Calm conditions occur frequently during nighttime hours during all seasons and, during winter, into the late morning hours.

##### Odors

There are no existing odor sources in the City of San Pablo. Richmond, to the south and west of San Pablo, has several known odor emitting sources including, but not limited to, Chevron Refineries and Chemical Plants, West Contra Costa Sanitary District, and West Contra Costa Sanitary Landfill. These sources are located just outside the buffer zone distances recommended by the BAAQMD (see the Impacts section for further discussion). The City does not have a history of complaints about odors from industrial sources; odor complaints appear to be related mostly to "nuisance" odors (such as odors from fast food restaurants) (Eller, 1996).

##### Sensitive Land Uses

Some persons are considered more sensitive than others to air pollutants. The reasons for the higher sensitivity may include health problems, closeness to the emissions source, and length of exposure to air pollutants. Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people in residential areas are often at home for long periods. Recreational land uses are moderately sensitive to air pollution, because vigorous exercise associated with recreation places a high demand on the human respiratory function. Employees (in industrial and commercial uses) are the sensitive population of concern for indoor workplace air pollutants.

Some of the existing land uses in San Pablo that may be sensitive to air pollutants include residences, Brookside Hospital, schools, convalescent homes, and Davis Park.

##### Regulatory and Policy Context

Air quality is regulated through both federal and state ambient (outdoor) air quality standards and emissions limits for individual sources of air pollutants. Federal and State regulations

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dictate local air quality management through districts such as the BAAQMD. Applicable federal and State standards and regulations are summarized in Appendix F.

The City of San Pablo is in Contra Costa County, under the jurisdiction of the BAAQMD. As required by the California Clean Air Act, BAAQMD has published its *Bay Area '94 Clean Air Plan* ('94 Clean Air Plan). The goal of the '94 Clean Air Plan is to improve air quality through the 1990s through tighter industry controls, cleaner cars and trucks, cleaner fuels, and increased commute alternatives (BAAQMD, 1994). The '94 Clean Air Plan encourages counties and cities, including San Pablo, to adopt measures in support of this goal. Identified measures include encouraging cities and counties to plan for high density development; and clustering development with mixed uses in the vicinity of mass transit stations.

To operate most new or modified stationary sources (such as large boilers, industrial and commercial process equipment, and petroleum storage tanks) in the Bay Area, one must first apply for an Authority to Construct with the BAAQMD in order to receive a Permit to Operate. If certain threshold emissions limits would be exceeded, then an applicant must install Best Available Control Technology on the new or modified source and/or provide emission offsets. Emission offsets can take the form of changes at a plant to reduce emissions from an existing source, or they can be purchased from the BAAQMD emissions credit bank program.

The current San Pablo *General Plan* does not have policies directly related to air quality. However, many of the City's and region's efforts toward improving air quality are linked to transportation. Transportation Control Measures are reflected in the West Contra Costa Transportation Advisory Committee's Transportation Demand Management Program. The Congestion Management Programs required by State law include air quality provisions; the required components of the Congestion Management Program are very similar to the components of the Contra Costa Transportation Authority's Growth Management Program. To the extent that the transportation policies in the current San Pablo *General Plan* are intended to reduce automobile traffic and increase use of alternative modes of transportation, those policies are indirectly related to air quality (see Section IV.B., Transportation and Circulation, for a discussion of Transportation Demand Management, the Growth Management Program, and other policies).



## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project would normally have a significant air quality impact if it would:

- violate air quality standards;
- contribute substantially to existing or projected air quality violations; or
- expose sensitive receptors to substantial concentrations of air pollutants.

In addition, Appendix I of the CEQA *Guidelines* states that a project would have a significant air quality impact if it would:

- create objectionable odors; or
- would lead to the alteration of air movement, moisture, or temperature, or change in climate, either locally or regionally.

BAAQMD recommends three additional significance criteria, specific to local plans, in its Draft *CEQA Guidelines* (BAAQMD, 1995b). In general, the Draft *CEQA Guidelines* stress that General Plans for cities and counties must be consistent with the most recent regional air quality plan, the '94 *Clean Air Plan*. Local plans found to be consistent with the '94 *Clean Air Plan* would have a less than significant impact on regional air quality.

The following criteria are recommended by BAAQMD in evaluating the impacts of revisions to local plans:

- (1) *Consistency with Clean Air Plan Population and VMT*
  - (a) Population growth for the jurisdiction will not exceed values included in the current *Clean Air Plan*, and
  - (b) the rate of increase in vehicle miles traveled (VMT) for the jurisdiction is equal to or lower than the rate of increase in population.
- (2) *Consistency with Clean Air Plan Transportation Control Measures (TCMs)*

The Plan should demonstrate that TCMs described in the *CAP* are included as part of the project.



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(3) *Impacts Associated with Odors and Toxics*

Buffer zones should be established around existing and proposed land uses that would emit odors and/or toxics. Buffer zones should be reflected in local plan policies, land use map(s), and implementing ordinances.

Impacts

**Impact Air-1: Fugitive dust generated by construction and demolition activities under the updated General Plan could result in health and nuisance-type impacts in the immediate vicinity of individual construction sites. This would be a significant impact.**

Construction activities would occur intermittently at different sites throughout the period covered by the updated General Plan, although the related impacts at any one location would be temporary. Construction of individual projects consistent with the updated General Plan would generate substantial amounts of "fugitive" dust.<sup>2</sup>

Fugitive dust emissions would vary day to day, depending on the level and type of activity, silt content of the soil, and the prevailing weather. Sources of fugitive dust during construction would include vehicle movement over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces. Demolition of buildings constructed prior to 1980 often involves building materials containing asbestos. Airborne asbestos fibers pose a serious health threat. The demolition, renovation or removal of asbestos-containing building materials is subject to the limitations of BAAQMD Regulation 11, Rule 2.

Fugitive dust from construction activities includes large-sized particulates that typically fall out of the air within several hundred feet of construction sites as well as fine particulates. The larger-sized particulates would pose nuisance concerns such as reduced visibility and soiling of exposed surfaces. Fine particulates (PM<sub>10</sub>) would be associated with adverse health effects. Background concentrations in San Pablo as well as the rest of the Bay Area often exceed the State ambient PM<sub>10</sub> standard, and construction activities under the updated General Plan would add to those concentrations, particularly in the immediate vicinity of individual construction sites. Without mitigation, the local contribution from construction, while temporary, could be substantial. Taking into the account the potential for adverse nuisance and health effects, this impact would be significant.

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<sup>2</sup> "Fugitive" emissions refer to pollutants emitted to the atmosphere without passing through a stack or exhaust pipe. Examples of fugitive emissions sources include vehicle movement over paved and unpaved surfaces and wind erosion of exposed surfaces.

**Impact Air-1: Mitigation Measures Proposed as Part of the updated General Plan**

None identified.

**Impact Air-1: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Air-1: Mitigation Measures Identified in this EIR**

**Air-1a:** The City shall condition approval of individual development proposals on implementation of an appropriate dust abatement program, patterned on the BAAQMD approach described below (BAAQMD, 1995b). In addition to general construction dust abatement measures, where a specific development proposal would entail the demolition of a building containing asbestos building materials, the City shall require that project sponsors consult with BAAQMD concerning the specific requirements of BAAQMD Regulation 11, Rule 2.

The BAAQMD approach to dust abatement calls for "basic" control measures that should be implemented at all construction sites, "enhanced" control measures that should be implemented at construction sites greater than four acres in area, and "optional" control measures that should be implemented on a case-by-case basis at construction sites that are large in area, located near sensitive receptors or which, for any other reason, may warrant additional emissions reductions. The basic, enhanced, and optional dust control programs are described in Appendix F of this EIR.

**Impact Air-1: Significance After Mitigation**

The mitigation measures identified above would reduce potential impacts from construction dust to a less-than-significant level.

**Impact Air-2: Increased traffic due to development under the updated General Plan could add to congested conditions on the local roadway network, resulting in CO "hot spots" at congested intersections. This would be a significant impact.**

New development and redevelopment under the updated General Plan could generate sufficient traffic to degrade local intersections (see Section IV.B., Transportation and Circulation).

Increased congestion at intersections lowers average speeds and increases idling time which

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Construction-related emissions would also include exhaust emissions from heavy construction equipment and construction worker commute trips; as a general matter, however, such emissions would not be considered significant (BAAQMD, 1995b).

would tend to increase local CO concentrations. While the average CO emissions per vehicle-mile-traveled is expected to decrease into the next decade, increased congestion at critical intersections could offset this decrease in emissions such that CO standards could be violated. Such violations would be a significant impact.

#### **Impact Air-2: Mitigation Measures Proposed as Part of the updated General Plan**

Section IV.B., Transportation and Circulation, lists a number of policies and actions from the Circulation, Public Facilities and Services Element of the updated General Plan that would help to reduce congestion. Implementation of these policies and actions would also tend to reduce the potential for CO "hot spots" at congested intersections in the City. In addition to those policies and actions, the following are included as mitigation measures:

##### **Regional Circulation - Policy CF 1.5: Regional Operating Conditions and Image: Major Arterials and Parkways**

##### **Regional Circulation - Action CF 1.A: Safety Upgrade Program**

#### **Impact Air-2: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

Section IV.B., Transportation and Circulation, lists policies and actions from the Growth Management Element that promote adherence to established LOS standards. Implementation of these policies would also help to reduce the potential for CO impacts.

#### **Impact Air-2: Mitigation Measures Identified in this EIR**

**Air-2a:** Through its CEQA review process, the City shall use the BAAQMD's approach set forth in their latest *CEQA Guidelines* document to identify, evaluate, and remedy CO "hot spots" resulting from development proposals. The current BAAQMD approach (as set forth in their Draft *Guidelines*, 1995b) calls for quantification of CO concentrations for development proposals under the following circumstances: 1) project-related vehicle emissions of CO would exceed 550 pounds per day, 2) project traffic would impact intersections or roadway links operating at Level of Service (LOS) D, E, or F or would cause LOS to decline to D, E, or F, or 3) project traffic would increase traffic volumes on nearby roadways by 10 percent or more.<sup>3</sup> CO concentration estimates of greater than 20 ppm, one-hour average, or 9 ppm, eight-hour average would trigger the need for

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<sup>3</sup> Unless the increase in traffic volume is less than 100 vehicles per hour.



intersection improvements (e.g. modified signal timing, re-striping, etc.) to improve traffic circulation.

**Impact Air-2: Significance After Mitigation**

The mitigation measures identified above and in Section IV.B. would reduce the potential for increased traffic on the local road network to cause violations of ambient CO standards. The impact would be reduced to a less-than-significant level.

**Impact Air-3: Additional development under the updated General Plan would contribute incrementally to regional O<sub>3</sub> concentrations. This impact would be less than significant.**

Additional development under the updated General Plan would increase the number of emissions sources associated with the City of San Pablo. These sources would include stationary sources (such as boilers and petroleum storage tanks), area sources (such as consumer product use) and mobile sources (primarily automobile and truck traffic). Most stationary sources related to commercial and industrial development would be regulated under permits issued by the BAAQMD. Area and mobile sources generally are not regulated through air quality permits. Mobile source emissions are related to the number of trips generated on a daily basis and the average trip length.

The additional sources that would result from new development would emit O<sub>3</sub> precursor emissions (i.e. hydrocarbons and nitrogen oxides) and thereby incrementally contribute to O<sub>3</sub> concentrations in the region. O<sub>3</sub> concentrations are expected to continue to violate the State ambient O<sub>3</sub> standard on occasion in the inland valleys of the Bay Area into the foreseeable future. While adverse, the regional impact of new development in San Pablo under the updated General Plan would not be considered significant because the updated General Plan would be consistent with the '94 *Clean Air Plan*. (The '94 *Clean Air Plan* represents the region's strategy to reduce the regional O<sub>3</sub> problem.)

Using BAAQMD's recommended approach, a revised local plan is consistent with the '94 *Clean Air Plan* so long as the population growth for the jurisdiction would not exceed values included in the current *Clean Air Plan*, the rate of increase in vehicle mile traveled (VMT) for the jurisdiction would be equal to or lower than the rate of increase in population projections, and Transportation Control Measures (TCMs) are included as part of the project.



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Table IV.K.2 compares the population estimates for Year 2010 that were assumed for the '94 *Clean Air Plan* with those assumed for the updated General Plan. As shown in Table IV.K.2, the expected population under the updated General Plan (based on reasonably foreseeable development through 2010) is well within the population estimate assumed for the '94 *Clean Air Plan*. Table IV.K.3 shows the rate of increase in VMT from 1990 conditions to 2010 versus the rate of increase in population under both the existing *General Plan* and the updated General Plan. As shown in Table IV.K.3, the rate of change of VMT would be essentially the same as the rate of population increase under both the existing *General Plan* and the updated General Plan.

Table IV.K.4 identifies the types of TCMs that local governments should implement through local plans to be considered in conformance with '94 *Clean Air Plan* objectives.

**Impact Air-3: Mitigation Measures Proposed as Part of the updated General Plan**

The following policies and actions in the Environmental Resources Management Element of the updated General Plan would implement the types of TCMs called for in the '94 *Clean Air Plan*:

**Air Quality - Policy ER 1.12: Air Quality Improvements**  
**Air Quality - Policy ER 1.13: Support WCCTA Programs**  
**Air Quality - Policy ER 1.14: Regional Coordination**  
**Air Quality - Policy ER 1.15: Transit Impact**

**Air Quality - Action ER 1.H: Cooperation with BAAQMD**  
**Air Quality - Action ER 1.I: Pollutant Transport**

The following policies and actions from the Circulation, Public Facilities and Services Element of the updated General Plan also relate to TCMs:

**Regional Circulation - Policy CF 1.2: Levels of Service**

**Alternatives to Automobile Use - Policy CF 1.14: BART Extension**  
**Alternatives to Automobile Use - Policy CF 1.15: Public Transit Providers**  
**Alternatives to Automobile Use - Policy CF 1.16: Bicycle Routes**  
**Alternatives to Automobile Use - Policy CF 1.17: Pedestrian Routes**  
**Alternatives to Automobile Use - Policy CF 1.18: Land Use and Design Standards**

**Regional Circulation - Action CF 1.C: Monitoring of Traffic Service Levels**  
**Regional Circulation - Action CF 1.D: Development Conditions**

**Alternatives to Automobile Use - Action CF 1.M: Education Programs**  
**Alternatives to Automobile Use - Action CF 1.N: Bart Extension**  
**Alternatives to Automobile Use - Action CF 1.O: Multi-Modal Transit Centers**

TABLE IV.K.2: POPULATION AND EMPLOYMENT PROJECTIONS FOR THE UPDATED GENERAL PLAN COMPARED TO '94 CLEAN AIR PLAN PROJECTIONS

<u>Scenario</u>	<u>Total Population</u>	<u>Total Jobs</u>	<u>Employed Residents /d/</u>	<u>Daily VMT /e/</u>
1990 Conditions/a/	28,560	8,340	18,078	60,890
2010 '94 Clean Air Plan/b/	33,400	8,950	21,142	70,056
2010 Updated General Plan/c/	31,600	9,600	20,003	67,907

/a/ Total population and jobs in 1990 are from the 1990 U.S. Census.

/b/ Total population and jobs in 2010 under the *94 Clean Air Plan* are from the Association of Bay Area Governments' *Projections '94* (ABAG, 1993). Total population and jobs in 2010 under the current *General Plan* is assumed to be equal to ABAG projections.

/c/ See Section IV.C., Population, Employment and Housing for total population and jobs in 2010 under the update *General Plan*.

/d/ The number of "employed residents" was determined by distinguishing between those that live in market rate housing and those that live in subsidized housing. The percentage of the population living in market rate housing was assumed to be 95 percent under all scenarios (with the other 5 percent in subsidized housing). "Employed residents" was assumed to be equal to 64 percent of the population living in market rate housing and 50 percent of the population living in subsidized housing. Note that these figures are different from the employed residents reported in Section IV.C (the latter figures are calculated differently).

/e/ Vehicle Miles Traveled (VMT) were based on trip generation rates, estimated on the basis of a comprehensive study of trip demand characteristics in San Francisco expanded to reflect characteristics of the Bay Area. Trip generation rates were multiplied by Contra Costa County's average trip length (in miles) of 7.4 (BAAQMD, 1995b).

SOURCE: U.S. Census, 1990; ABAG, 1993; BAAQMD, 1995b; Environmental Science Associates

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TABLE IV.K.3: ESTIMATED RATE INCREASES IN POPULATION AND VMT

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<u>Period of Change</u>	<u>Population Factor of Increase /a/</u>	<u>VMT Factor of Increase /a/</u>
Year 1990 to Year 2010 under Current <i>General Plan</i>	1.17	1.15
Year 1990 to Year 2010 under Updated <i>General Plan</i>	1.11	1.12

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/a/ Based on population and VMT estimates shown in Table IV.K.2. Comparison is made according to BAAQMD draft guidelines.

SOURCE: Environmental Science Associates

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TABLE IV.K.4: CLEAN AIR PLAN TRANSPORTATION CONTROL MEASURES TO BE IMPLEMENTED BY LOCAL GOVERNMENT

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<u>Transportation Control Measures</u>	<u>Description</u>
Expand Employer Assistance Program	<ul style="list-style-type: none"><li>• Provide assistance to regional and local ridesharing organizations.</li></ul>
Improve Bicycle Access and Facilities	<ul style="list-style-type: none"><li>• Establish and maintain bicycle advisory committees in all nine Bay Area counties.</li><li>• Develop comprehensive bicycle plans.</li><li>• Encourage employers and developers to provide bicycle access and facilities.</li><li>• Improve and expand bicycle lane system.</li></ul>
Improve Arterial Traffic Management	<ul style="list-style-type: none"><li>• Continue ongoing local signal timing programs.</li><li>• Study signal preemption for buses on arterials with high volume of bus traffic.</li></ul>
Transit Use Incentives	<ul style="list-style-type: none"><li>• Expand marketing and distribution of transit passes and tickets.</li><li>• Set up local transportation stores to sell passes, distribute information.</li></ul>
Local Clean Air Plans, Policies and Programs	<ul style="list-style-type: none"><li>• Incorporate air quality beneficial policies and programs into local planning and development activities, with a particular focus on subdivision, zoning and site design measures that reduce the number and length of single-occupant automobile trips.</li></ul>

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SOURCE: BAAQMD, 1995b.

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**Alternatives to Automobile Use - Action CF 1.P: Pedestrian Oriented Right of Way Improvements**

**Alternatives to Automobile Use - Action CF 1.Q: Pedestrian Oriented Private Property Improvements**

**Alternatives to Automobile Use - Action CF 1.R: Reduction of Work Trips**

**Alternatives to Automobile Use - Action CF 1.S: Bicycle Route Master Plan**

**Impact Air-3: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

Section IV.B., Transportation and Circulation, lists policies and actions from the Growth Management Element that promote adherence to established LOS standards. These policies are also related to TCMs and would help to ensure that the impact is less than significant.

**Impact Air-3: Mitigation Measures Identified in this EIR**

**Air-3a:** Through its CEQA review process, the City shall use the BAAQMD's CEQA significance criteria for evaluating the air quality impacts of individual development proposals. The current version of the significance criteria is set forth in their Draft *CEQA Guidelines* (BAAQMD, 1995b).

**Air-3b:** The City shall consider requiring that applicants who seek to operate new commercial or industrial facilities in San Pablo demonstrate compliance with BAAQMD Rules and Regulations.

**Impact Air-3: Significance After Mitigation**

As demonstrated by the above discussion, the updated General Plan includes a wide range of TCMs that would tend to reduce vehicle activity (and associated emissions) and thereby further the goals of the '94 *Clean Air Plan*.

In summary, because foreseeable development under the updated General Plan would be consistent with regional population projections, would result in a rate of increase in VMT proportional to the rate of increase in population, and would include various TCMs, the project would be consistent with the '94 *Clean Air Plan*. Furthermore, because the updated General Plan would be consistent with the '94 *Clean Air Plan*, the increase in O<sub>3</sub> precursors generated by new development would be less than significant.

**Impact Air-4: Proposed development under the updated General Plan could result in the exposure of sensitive receptors to new sources of odors. This would be a less-than-significant impact.**

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors. Odorous impacts should be considered for any proposed new sources near existing receptors, as well as any new sensitive receptors locating near existing odor sources. Generally, increasing the distance between a receptor and the source to an acceptable level will mitigate odor impacts. Table IV.K.5 shows BAAQMD-recommended buffer zones (distance between receptor and source) for known odor-emitting sources.

New stationary sources producing odorous emissions have not yet been sited in the City of San Pablo. For specific projects, the number of complaints generated over a given period of time is used as a basis for determining significance. Any future projects that could result in an odor source and sensitive receptor being located closer to one another than the distances in Table IV.K.5 would require further environmental review. Methods of reducing odor impacts could include increasing distances between receptor and source; process changes; add-on controls; and reduction of odorous emissions.

Because prevailing winds in San Pablo come from the south and southwest, odorous emissions from odor-producing sources located in Richmond could expose existing and proposed new residences to odor impacts. However, Richmond has provisions in its General Plan and Zoning Ordinance that require reduction and mitigation of odor impacts. Given that there is not a history of complaints about odors from industrial sources, this impact is considered to be less than significant.

**Impact Air-4: Mitigation Measures Proposed as Part of the updated General Plan**

The following policy identified in the Environmental Resources Management Element of the updated General Plan is related to odor impacts:

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TABLE IV.K.5: BUFFER ZONE DISTANCES FOR POTENTIAL ODOR SOURCES

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<u>Type of Operation</u>	<u>Buffer Zone (distance between receptor and source)</u>
Wastewater Treatment Plant	1 mile
Sanitary Landfill	1 mile
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	1 mile
Chemical Manufacturing	1 mile
Fiberglass Manufacturing	1 mile
Painting/Coating Operations (e.g. auto body shops)	1 mile
Rendering Plant	1 mile
Coffee Roaster	1 mile

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SOURCE: BAAQMD, 1995b.

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**Air Quality - Policy ER 1.16: Siting Criteria**

**Impact Air-4: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None Identified.

**Impact Air-4: Mitigation Measures Identified in this EIR**

None Required.

**Impact Air-4: Significance After Mitigation**

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Because maintaining an adequate buffer zone between receptor and source would effectively reduce odor impacts, enforcement of Policy ER1.16 would ensure that potential odor impacts remain at a less-than-significant level.

**Impact Air-5: New residential development under the updated General Plan could result in the exposure of sensitive receptors to toxic air contaminants. This would be a significant impact.**

New development under the updated General Plan could result in increased emissions of toxic air contaminants by stationary and mobile sources. Most stationary sources of toxic air contaminants that would be associated with commercial and industrial development would be regulated by the BAAQMD.

As a general matter, BAAQMD denies permit applications for new stationary sources whose routine emissions would result in an incremental increase in cancer risk of 10 in one million. Given that BAAQMD policy, routine emissions of toxic air contaminants from new commercial and industrial development under the updated General Plan would not pose a significant effect for existing or future residents of the City. BAAQMD does not regulate mobile sources, and there are no established procedures for evaluating the impacts of mobile-source toxic air contaminants.

While routine emissions of toxic air contaminants would not pose a significant risk to residents in the City, accidental releases could result in substantial risks, particularly given San Pablo's location downwind of significant industrial operations in the City of Richmond. Implementation of the updated General Plan would introduce new sensitive land uses (particularly residential) to these risks. This would be a significant impact.

**Impact Air-5: Mitigation Measures Proposed as Part of the Project**

The following policy identified in the Environmental Resources Management Element of the updated General Plan relates to air toxics from stationary sources:

**Air Quality - Policy ER 1.16: Siting Criteria, discussed under Impact Air-4.**

Also, see the discussion of Impact Hazard-2 in this report where additional mitigation measures are identified that would reduce the probability of an industrial accident and that would address the issues raised when an accident occurs.



**Impact Air-5: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None Identified.

**Impact Air-5: Mitigation Measures Identified in this EIR**

**Air 5a:** The City shall discourage development of sensitive land uses (e.g. residences, schools, hospital, day care centers) where 1) such use would be exposed to an incremental cancer risk from stationary sources in the vicinity of 10 in one million or greater (as identified in the annual BAAQMD report on toxic air contaminants, or through consultation with BAAQMD to determine where health risk assessments have been required) or where 2) such use would lie within the Emergency Response Planning Guidelines (ERPG) Exposure Level 2 for a given industrial facility.<sup>4</sup> These criteria can also be used in implementing **Air Quality Policy ER 1.16: Siting Criteria** described above. (The City could coordinate with Contra Costa County to obtain information on certain industrial facilities.)

**Impact Air-5: Significance After Mitigation**

Implementation of the above measures would reduce potential toxic air pollutant impacts to a less-than-significant level.

REFERENCES - Air Quality

Association of Bay Area Governments (ABAG), *Projections '94*, December 1993.

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<sup>4</sup> ERPG exposure level 2 is defined as the maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing or developing irreversible or other serious health effects or symptoms which could impair an individual's ability to take protective action. ERPG exposure levels for individual facilities are determined through the process of administering the Risk Management Prevention Program (RMPP). The County is the administering agency for the RMPP.

IV. Environmental Setting, Impacts and Mitigation Measures  
K. Air Quality

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Eller, John, City of San Pablo, meeting, May 2, 1996.

## L. NOISE

### SETTING

#### Introduction

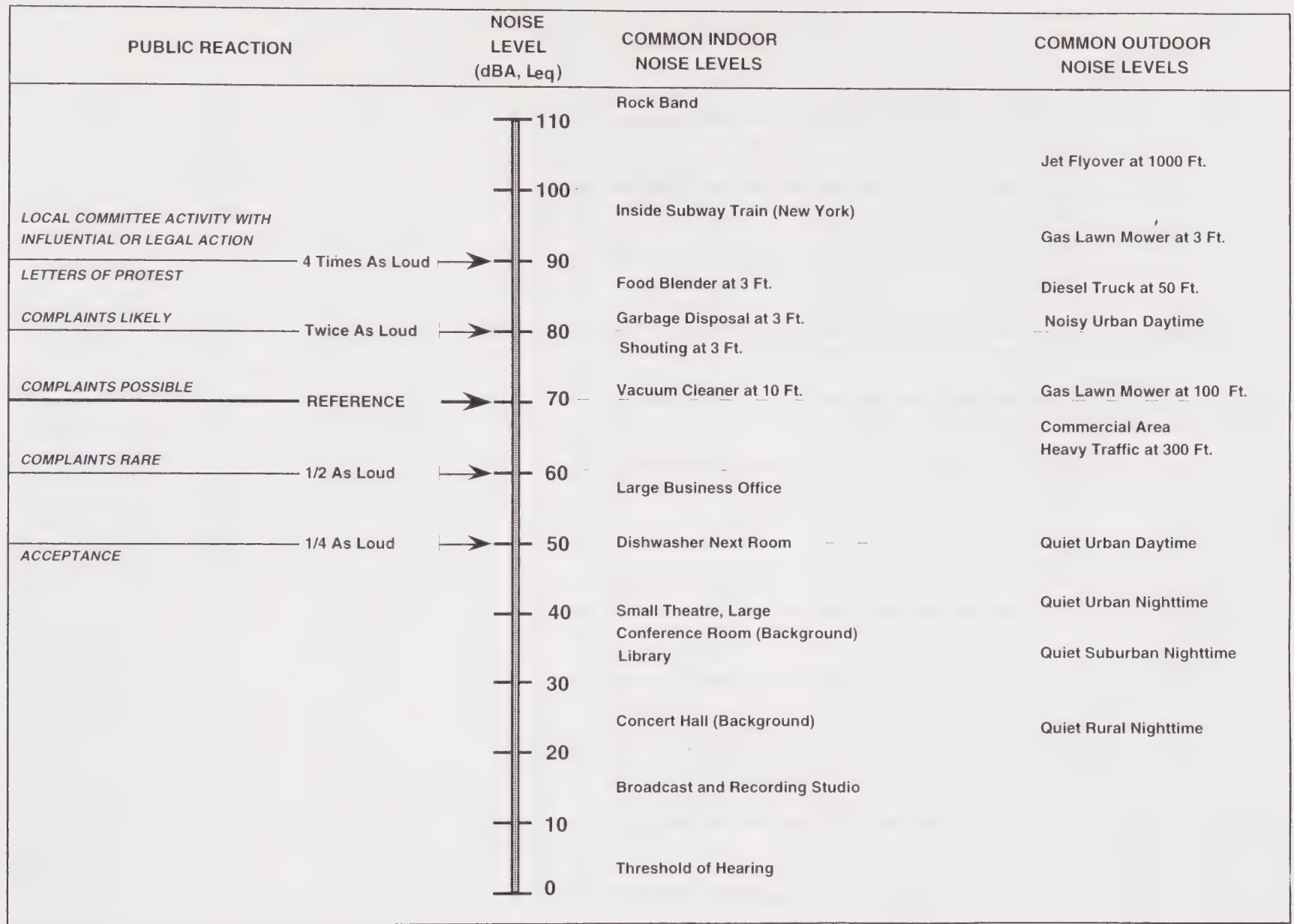
Ambient noise is the total noise associated with a given environment, and usually includes all sources, both near and far. Ambient noise is usually measured in A-weighted decibels (dBA).<sup>1</sup> Some representative noise sources and their corresponding noise levels are shown in Figure IV.L.1. Ambient noise levels typically change over time, and different types of noise descriptors are used to account for this variability. The typical noise descriptors used to describe noise levels averaged over time include the energy-equivalent noise level ( $L_{eq}$ ), the day-night average noise level ( $L_{dn}$ ), and the community noise equivalent level (CNEL).<sup>2</sup> Both the  $L_{dn}$  and CNEL noise descriptors are commonly used in establishing noise exposure guidelines for specific land uses.

Noise levels are measured on a logarithmic scale, and therefore, are not added directly to each other. As an example, the sum of two noise sources of equal loudness is three dBA greater than the noise generated by just one of the noise sources (i.e., a noise source of 60 dBA plus another noise source of 60 dBA generates a composite noise level of 63 dBA). To apply this formula to a specific noise source, in areas where existing noise levels are dominated by traffic, a doubling in the volume of the traffic will increase ambient noise levels by three dBA. A three-dBA increase is the smallest change in noise level detectable by the average person. A noise level increase of ten dBA is perceived as being twice as loud.

The noise level experienced at a particular location (a "receptor") depends on the distance between the source and the receptor, presence or absence of noise barriers and other devices that help to block the noise path, and the amount of noise attenuation (lessening) provided by the

<sup>1</sup> A decibel (dB) is a logarithmic unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level") measured in decibels. An A-weighted decibel (dBA) is a decibel corrected for the variation in frequency response of the typical human ear at commonly encountered noise levels.

<sup>2</sup>  $L_{eq}$ , the energy equivalent noise level, is the equivalent steady-state continuous noise level which, in a stated period of time, would contain the same acoustic energy as the time-varying sound level actually measured during the same period.  $L_{dn}$ , the day-night average noise level, is a calculated noise descriptor based on average hourly noise levels ( $L_{eq}$ ) over a 24-hour period. Noise between 10:00 p.m. and 7:00 a.m. is weighted by adding 10 dBA to take into account the greater annoyance of nighttime noise. CNEL, the community noise equivalent level, is similar to  $L_{dn}$ , but an additional five dBA "penalty" is added to evening noise (7:00 p.m. to 10:00 p.m.).  $L_{dn}$  and CNEL are considered equivalent for most planning purposes. All  $L_{eq}$ ,  $L_{dn}$ , and CNEL values reported herein reflect A-weighted decibels unless otherwise stated.



SOURCE: Caltrans Transportation Laboratory Noise Manual, 1982;  
Modification by Environmental Science Associates

San Pablo General Plan Consulting Services / 950160 ■

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams, Kuebelbeck & Associates, Inc.

**Figure IV.L.1**  
Effects of Noise on People



#### IV. Environmental Setting, Impacts and Mitigation Measures

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intervening terrain. For motor vehicle traffic, noise decreases by about 3.0 to 4.5 dBA for every doubling of the distance from the roadway. Conversely, noise increases by approximately 3.0 to 4.5 dBA when the distance to the roadway is halved. For point or stationary noise sources, such as electric motors, a noise reduction of 6.0 to 7.5 dBA is experienced for each doubling of the distance from the noise source.

The amount of noise attenuation depends to a large extent on how good the land between the source and the receptor is at absorbing sound. Soft earth with plant cover provides a 4.5 dBA attenuation with every doubling of the distance; hard exposed surfaces provide a noise attenuation of only 3.0 dBA. Noise barriers or shielding devices that break the line of sight between the source and the receptor would generally provide a noise attenuation of about 5 to 10 dBA.

##### Existing Noise Environment

The City of San Pablo was included in the study area for the *Technical Report for the Update of the Noise Element of the Richmond General Plan*, which provided background data on noise that was used in the *Richmond General Plan Noise Element* (Engineering-Science, Inc., 1991).

Transportation-related noise sources, primarily automobiles, buses, and trucks, contribute the most to ambient noise levels throughout San Pablo. Interstate 80 (I-80) and the heavily traveled thoroughfares Rumrill Boulevard, 23rd Street, San Pablo Avenue, and San Pablo Dam Road are the major roadways that contribute to ambient noise levels. The two railway lines along and west of the City boundary, the Atchison Topeka & Santa Fe (AT&SF) and, to a lesser degree, the Southern Pacific (SP), also contribute to ambient noise levels.

The existing San Pablo *General Plan* includes roadway and railroad noise contours in the Planning Area for 1974 and (forecast) 1995, as well as areas of the City designated as "excessive noise areas," where sound levels exceed 65 decibels (City of San Pablo, 1976). The excessive noise areas at that time included (among others) areas along I-80, San Pablo Avenue, 23rd Street, San Pablo Dam Road, and Rumrill Boulevard.

Table F-10 in the *Richmond General Plan Draft Technical Appendix* shows the short-term (15-minute) noise levels measured at 26 locations. (The measurements were taken in 1991.) The table shows that noise levels along major roadways in the study area were above 65  $L_{eq}$ . The only noise measurement taken in San Pablo was on Tasco Court, at the northwestern City

## IV. Environmental Setting, Impacts and Mitigation Measures

### L. Noise

limit. The measured noise level at that location was 45  $L_{eq}$ . Noise measurement locations close to San Pablo included Hilltop Drive, San Pablo Avenue (at Garvin), and Solano Avenue. Noise levels at all of these locations were above 65  $L_{eq}$ . A sound level of 65 decibels is high enough to interfere with ordinary speech.

The noise levels measured along railway lines in the study area did not appear to include the noise from passing trains. Rail (diesel) locomotives typically generate a maximum noise level of approximately 88 dBA at a distance of about 50 feet from the tracks (USDOT, 1995).

The Richmond *General Plan* Noise Element includes noise contours for 1990 (reproduced herein as Figure IV.L.2). The highest roadway noise levels in San Pablo (70  $L_{dn}$  at 300 feet from the roadway) are along I-80. Similar to what was reported in the existing San Pablo *General Plan*, areas along 23rd Street, Rumrill Boulevard, San Pablo Avenue and San Pablo Dam Road are shown to have noise levels above 65  $L_{dn}$ . Noise contours plotted for the 1990 operations of the AT&SF and SP railroads (Figure IV.L.3) show that noise levels within about 300 feet of the tracks are about 70  $L_{dn}$ . Noise-sensitive land uses within about 600 feet of the tracks are exposed to noise levels of over 60  $L_{dn}$ .

The major stationary sources of noise in San Pablo, such as the industrial operations, are located in the western part of the City. In the southern portion of the industrial area, there appears to be sufficient buffering such that noise levels at the nearest noise-sensitive land uses (such as residences) are below recommended standards. In the northern portion, residences are closer to industrial uses and, as a result, some residences could experience high noise levels from industrial operations.

#### Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both time and insulation from noise) and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, parks and outdoor recreation areas are generally more sensitive to noise than are commercial and industrial land uses, and would be treated as sensitive receptors for the General Plan update. The major noise-sensitive land use categories include (1) tracts of land, including outdoor concert pavilions, where quiet is an essential element in their intended purpose; (2) residences and buildings where people normally sleep; and (3) institutional



SOURCE: City of Richmond

San Pablo General Plan Consulting Services / 950160 ■

## Figure IV.L.2

Day-Night Average Noise Level (Ldn)  
Contours for Year 1990 Roadway Traffic

IV.L.5

City of San Pablo  
Pacific Municipal Consultants  
RaceStudio  
Williams-Kuebelbeck & Associates, Inc.  
Environmental Science Associates



SOURCE: City of Richmond

San Pablo General Plan Consulting Services / 950160 ■

City of San Pablo  
 Pacific Municipal Consultants  
 RaceStudio  
 Williams-Kuebelbeck & Associates, Inc.  
 Environmental Science Associates

**Figure IV.L.3**  
 Day-Night Average Noise Level (Ldn)  
 Contours for Year 1990 Operations of the  
 S.P. and A.T. & S.F. Railroads

IV.L.6



## IV. Environmental Setting, Impacts and Mitigation Measures

### L. Noise

land uses with primarily daytime and evening use, such as schools, libraries, churches and active parks, where it is important to avoid interference with such activities as speech and concentration.

For the updated General Plan, sensitive receptors would include residential land uses, schools, churches, libraries, Brookside Hospital, and other noise-sensitive land uses or activities along the major roadways. Such land uses near I-80, Rumrill Boulevard, 23rd Street, San Pablo Avenue, San Pablo Dam Road, and near the AT&SF railway tracks may be exposed to high noise levels.

#### Regulatory and Policy Context

The State of California has adopted standards intended to reduce vehicle noise and to protect the interior noise environment of new residential structures (not including single-family residences). The City of San Pablo regulates noise through enforcement of the State standards, through implementation of *General Plan* policies and through enforcement of the City's noise ordinance.

Title 24 of the *California Code of Regulations*, the Building Standards Administrative Code, contains the State Noise Insulation Standards (Part 2, Appendix Chapter 12A) which specify an interior noise standard for new hotels, motels, apartment houses, and dwellings other than single-family dwellings. Such new structures must be designed to reduce outdoor noise to an interior level of (no more than) 45  $L_{dn}$ . The California Noise Insulation Standards also establish standards for sound isolation of separating walls, corridor walls, and floor/ceiling assemblies in multi-family residential construction. State noise standards for on-road motor vehicles are contained in the *Motor Vehicle Code*.

The current *General Plan* identifies compatibility guidelines for different land use categories within the City. These are shown in Table IV.L.1.

The current *General Plan* also lists eight policies to reduce noise. These include:

- Policy 1. The City shall investigate the cost-benefit of enforcing the California Vehicle Code noise standards for vehicles operating on City streets.
- Policy 2. The City shall investigate traffic control techniques that reduce noise levels in residential neighborhoods.

IV. Environmental Setting, Impacts and Mitigation Measures  
L. Noise

TABLE IV.L.1: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENTS

Land Use Category	Levels of Acceptability, $L_{dn}/a/$			
	I	II	III	IV
Residential - single- and multi-family, dorms, duplex, mobile homes	less than 60	60-65	65-75	more than 75
Transient lodging	less than 65	65-70	70-80	more than 80
Schools classrooms, libraries, churches, hospitals, nursing homes	less than 60	60-65	65-75	more than 75
Auditoriums, concert halls, music shells	less than 50	50-60	60-70	more than 70
Sports arenas, outdoor spectator sports	less than 60	60-65	65-75	more than 75
Playgrounds, neighborhood parks	less than 55	55-65	65-75	more than 75
Golf courses, riding stables, water recreation, cemeteries	less than 60	60-70	70-80	more than 80
Office buildings, personal, business, and professional	less than 65	65-75	75-80	more than 80
Commercial -- retail, theaters, restaurants	less than 65	65-75	75-80	more than 80
Commercial -- wholesale, some retail, corporations, manufacturing, utilities	less than 70	70-80	80-85	more than 85
Public right-of-way	less than 75	75-85	more than 85	Not specified
Extensive natural recreation areas	less than 60	60-75	75-85	more than 85

/a/ Levels of acceptability:

I: Clearly Acceptable: Noise is low and normal construction will be adequate. Activities associated with the land use may be carried out with no interference. Both indoor and outdoor environments will be pleasant.

II: Normally Acceptable: Noise is high, but common noise reducing construction will make the indoor environment acceptable, even for sleeping. The outdoor environment will be reasonably pleasant.

III: Normally Unacceptable: Noise is so severe that special noise reduction construction will be necessary to ensure an acceptable indoor environment. Barriers must be erected between the site and noise sources to make the outdoor environment tolerable.

IV: Clearly Unacceptable: Noise is so severe that noise reducing construction costs will be prohibitive. The outdoor environment will be intolerable for normal use.

SOURCE: City of San Pablo, *General Plan*, Noise Element, 1976.

## IV. Environmental Setting, Impacts and Mitigation Measures

### L. Noise

The value of designating truck routes, installing computerized traffic signals, and constructing new roads to remove truck traffic from residential areas should be evaluated. The closing of some minor streets to through traffic should be explored by the Police and Public Works Departments.

- Policy 3. The City shall require acoustical evaluation of new buildings to ensure that they comply with State standards and uniform building code standards for interior noise levels.
- Policy 4. The City shall prohibit new development that significantly increases noise. The quality of the environment must not be allowed to deteriorate.
- Policy 5. The City shall establish site planning criteria that lower noise in outdoor activity areas. Outdoor activities are more enjoyable in a quiet setting. Exterior noise can be lowered by properly orienting buildings, and by building fences, earth berms, and courtyards.
- Policy 6. The City shall reduce noise produced by public works activities to the lowest possible level. The City should purchase the quietest new equipment and modify existing equipment to reduce noise.
- Policy 7. The City shall require Caltrans to provide adequate noise reduction in the design of new State Highways or remodeled State Highways within San Pablo. Noise reduction can be achieved by depressing roadways or building sound deflecting walls or earth berms. New highways should also follow the least noise sensitive routes.
- Policy 8. The City shall prohibit the creation of unnecessary noise that is annoying to human beings of normal hearing including noises from (a) automobile repair, (b) construction equipment, (c) musical instruments, (d) audio amplifiers, (e) animals, (f) stationary engines and machines, and (g) idling motor vehicles.

San Pablo also has a noise ordinance designed to reduce nuisance noise in the community. The San Pablo noise ordinance prohibits certain activities that produce noise and restricts use of certain types of noise-generating equipment under specified conditions.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Based on the CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would increase substantially the ambient noise levels for adjoining areas. A project would also be considered to have a significant impact if it would introduce new noise-sensitive uses into an area that does, or would have, unacceptable noise levels. Unacceptable noise levels would be those that would exceed the "normally acceptable" Land Use Compatibility standards presented in Table IV.L.1.



**Impact Noise-1: Development consistent with the updated General Plan would result in temporary noise impacts related to construction activities. This would be a short-term significant impact.**

Construction preparation activities would involve excavation, grading, earth movement, stockpiling, batch dropping operations and vehicle travel. Construction activities such as foundation laying, building construction and finishing operations would also generate noise. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate impulsive noises, which can be particularly annoying. The second column in Table IV.L.2 shows typical noise levels during different construction stages. Table IV.L.3 shows typical noise levels produced by various construction equipment.

Noise-sensitive land uses, including residences, are located throughout San Pablo, and could be subjected to noise from construction and demolition activities associated with projects permitted under the updated General Plan. Standard demolition activities employ equipment similar to the construction activities and would have similar, but shorter term, noise impacts. The distances of various noise contours from construction sites are presented in Table IV.L.2. Noise-sensitive land uses within the distances shown under the 65  $L_{eq}$  contour to the construction site could be exposed to noise levels above the normally acceptable noise compatibility standard. The duration of the construction period would differ for individual projects under the updated General Plan, depending upon the extent of land use change proposed, and the extent to which the change involves new construction rather than re-use of existing structures.

Construction activities would be considered an intermittent noise impact throughout the life of the project and would vary in its effect on sensitive receptors, depending on the presence of intervening barriers or other insulating materials. Although construction activities would likely occur only during daytime hours, construction noise would still be considered to be disruptive to residents and local businesses.

Because the potential for construction activities to raise ambient noise levels above recommended standards at nearby sensitive receptor locations, construction noise would be considered a short-term, significant impact.



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L. Noise

TABLE IV.L.2: TYPICAL OFFICE CONSTRUCTION NOISE LEVELS

<u>Construction Activity</u>	Noise Level at 50 feet ( $L_{eq}$ ) /a/	Approximate Distance (ft.) to Reduce Noise to Given Level ( $L_{eq}$ ) /b/		
		<u>60</u>	<u>65</u>	<u>70</u>
Ground Clearing	84	790	450	250
Excavation	89	1,400	800	450
Foundations	78	400	220	130
Erection	85	890	500	280
Finishing	89	1,400	800	450

/a/ U.S. Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances*, December 1971.

/b/ Calculations assume a 6 dBA reduction for each doubling of distance from the noise source.

SOURCE: Environmental Science Associates.

TABLE IV.L.3: TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

<u>Construction Equipment</u>	Noise Level (dBA at 50 feet)
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Jackhammer	88
Scraper	88
Dozer	87
Paver	89
Generator	76
Piledriver	101
Rock Drill	98
Pump	76
Pneumatic Tools	85
Backhoe	85

SOURCE: Cunniff, *Environmental Noise Pollution*, 1977.

**Impact Noise-1: Mitigation Measures Proposed as Part of the Updated General Plan**

The Public Safety and Related Services Element includes Action statements that relate to this potential impact:

**Action PS 4.G: Community Noise Ordinance**

**Action PS 4.I: Construction Noise Limitations**

**Impact Noise-1: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

**Impact Noise-1: Mitigation Measures Identified in the EIR**

**Noise-1a:** The City shall revise its draft policy regarding limitations on hours of construction to account for more-sensitive weekend periods and to account for available construction noise abatement techniques:

**Action 4.I.: Construction Noise Limitations:** Limit hours for all construction or demolition work where site-related noise is audible at sensitive land uses beyond the site boundary; specify permitted construction and or demolition hours in the Community Noise Ordinance. Typically, projects are conditioned upon a guarantee of no work between 9:00 p.m. and 7:00 a.m., weekdays, and between 5:00 p.m. and 9:00 a.m., weekends and holidays. In addition, require that internal combustion engines be equipped with a properly operating muffler of a type recommended by the manufacturer and that impact tools be shielded per manufacturer's specifications.

**Impact Noise-1: Significance After Mitigation**

Given the temporary nature of construction noise impacts, the above mitigation measures would reduce the impact to less than significant.

**Impact Noise-2: New development under the updated General Plan could increase ambient noise levels at nearby residential areas by introducing new non-transportation noise sources into the area. This would be a significant impact.**

Non-transportation noise sources would accompany new development of residential units and commercial (retail, industrial, and other research) land uses. Noise from residences and commercial land uses that can be heard at surrounding uses consists mainly of noise from heating and ventilation (HVAC) equipment and loading/unloading activities. Noise levels from

## IV. Environmental Setting, Impacts and Mitigation Measures

### L. Noise

commercial central air conditioning units is over 100 dBA at very close distances (USEPA, 1971). These units normally have noise shielding cabinets, and are not generally cited as or found to be sources of significant noise impacts. The use of loading docks and associated truck traffic, however, could be a significant noise source. Without mitigation, such sources could substantially increase noise levels in adjacent noise-sensitive areas. This significant impact would be most likely to occur in the proposed mixed-use areas.

#### **Impact Noise-2: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions from the Public Safety and Related Services Element of the updated General Plan relate to noise/land use compatibility:

**Policy PS 4.1: Noise Considerations (General)**

**Policy PS 4.3: Building Design**

**Action PS 4.C: Noise Standards [Table X is reprinted herein as IV.L.4.]**

#### **Impact Noise-2: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

#### **Impact Noise-2: Mitigation Measures Identified in this EIR**

None required.

#### **Impact Noise-2: Significance After Mitigation**

Through use of building design and the proposed noise standards, noise impacts from non-transportation sources would be reduced to a less-than-significant level.

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L. Noise

TABLE IV.L.4 (TABLE X)  
NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS  
AFFECTED BY OR INCLUDING NON-TRANSPORTATION SOURCES

Land Use	Noise Level Descriptor	Exterior Noise Levels		Interior Noise Levels	
		Daytime (7 am to 10 pm)	Nighttime (10 pm to 7 am)	Daytime (7 am to 10 pm)	Nighttime (10 pm to 7 am)
Residential	Hourly Leq, dBA	50	45	45	35
	Maximum Level, dBA	70	65		--
Transient Lodging	Hourly Leq, dBA	--	--	45	35
Hospitals, Nursing Homes	Hourly Leq, dBA	--	--	45	35
Theaters, Auditoriums, Music Halls	Hourly Leq, dBA	--	--	35	35
Churches, Meeting Halls	Hourly Leq, dBA	--	--	40	40
Office Buildings	Hourly Leq, dBA	--	--	45	45
Schools, Libraries, Museums	Hourly Leq, dBA	--	--	45	45
Each of the noise levels specified above shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).					

Note: For the purposes of the Noise Element, transportation noise sources are defined as traffic on public roadways and railroad line operations. Non-transportation noise sources may include industrial operations, outdoor recreation facilities, HVAC units, loading docks, etc.



IV. Environmental Setting, Impacts and Mitigation Measures  
L. Noise

**Impact Noise-3: Under the updated General Plan, new noise-sensitive uses could be developed in areas where noise levels are unacceptable for such uses. This would be a significant impact.**

Under the updated General Plan, new residential (and other noise-sensitive land uses) would be developed. Some of this development could occur where the ambient noise environment would be unacceptable for such uses. Examples include residential development adjacent to heavily-traveled arterial streets or in the immediate vicinity of commercial or industrial facilities.

**Impact Noise-3: Mitigation Measures Proposed as Part of the Updated General Plan**

The following policies and actions from the Public Safety and Related Services Element of the updated General Plan relate to noise/land use compatibility:

**Policies PS 4.1 and 4.3 listed under Impact Noise-2**

**Action PS 4.A: Residential and Lodging Noise Mitigation**

**Action PS 4.E: Noise Standards for Land Use Development [Table XXX is reprinted herein as Table IV.L.5.]**

**Impact Noise-3: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

**Impact Noise-3: Mitigation Measures Identified in this EIR**

None are required.

**Impact Noise-3: Significance After Mitigation**

This impact would be reduced to less-than-significant through implementation of the proposed performance standards.

**Impact Noise-4: New transportation facilities developed under the updated General Plan could substantially increase ambient noise levels for adjacent uses. This would be a significant impact.**

Implementation of the updated General Plan would result in some improvements to the transportation infrastructure. Improvements involving new roadways or roadway extensions, such as the proposed extension of Broadway to Giant Road, would introduce a new source of

IV. Environmental Setting, Impacts and Mitigation Measures  
L. Noise

TABLE IV.L.5 (TABLE XXX)  
MAXIMUM ALLOWABLE NOISE EXPOSURE  
TRANSPORTATION NOISE SOURCES

Land Use	Outdoor Activity Areas <sup>1</sup> Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq, dB <sup>2</sup>
Residential	60 <sup>3</sup>	45	--
Transient Lodging	60 <sup>3</sup>	45	--
Hospitals, Nursing Homes	60 <sup>3</sup>	45	--
Theaters, Auditoriums, Music Halls	--	--	35
Churches, Meeting Halls	60 <sup>3</sup>	--	40
Office Buildings	--	--	45
Schools, Libraries, Museums	--	--	45
Playgrounds, Neighborhood Parks	70	--	--

- 1 Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.
- 2 As determined for a typical worst-case hour during periods of use.
- 3 Where it is not possible to reduce noise in outdoor activity areas to 60 dB Ldn/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB Ldn/CNEL may be allowed, provided that practical exterior noise level reduction measures have been implemented and that interior noise levels are in compliance with this table.

noise into the vicinity which would lead to corresponding increases in ambient noise levels. The corresponding increases in noise could be significant depending upon the types of land uses along the alignment, existing noise levels and the expected traffic volumes.

**Impact Noise-4: Mitigation Measures Proposed as Part of the Updated General Plan**

The Public Safety and Related Services Element contains the following actions relating to this potential impact:

**Action PS 4.F: Transportation Projects**

**Action PS 4.L: Truck Routes**

**Impact Noise-4: Mitigation Measures Identified by the Growth Management and Housing Elements of the Current *General Plan***

None identified.

**Impact Noise-4: Mitigation Measures Identified in this EIR**

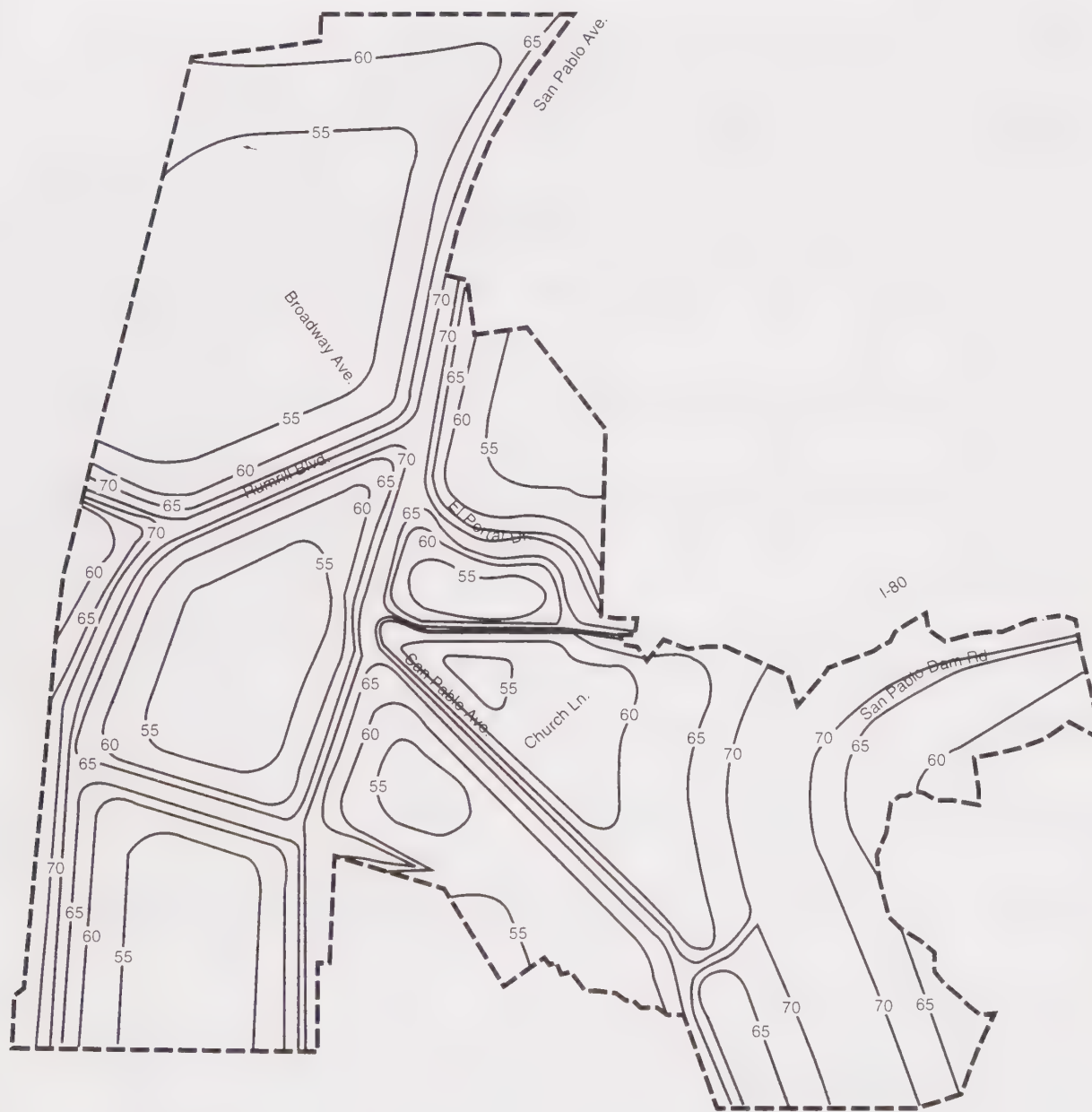
None required.

**Impact Noise-4: Significance After Mitigation**

This impact would be reduced to less-than-significant through implementation of the proposed performance standards.

**Less-Than-Significant Impacts**

Day-night average noise level contours that include the City of San Pablo have been developed by the City of Richmond in their 1991 *General Plan*. The noise contour for 2010 reflects traffic generated by development under the City of Richmond's *General Plan* and development under the existing City of San Pablo *General Plan* and is presented in Figure IV.L.4. To assess the impact of traffic from increased development under the updated General Plan, changes in peak hour traffic volumes were compared to those under the existing General Plan.



SOURCE: City of Richmond

San Pablo General Plan Consulting Services / 950160 ■

City of San Pablo  
 Pacific Municipal Consultants  
 RaceStudio  
 Williams-Kuebelbeck & Associates, Inc.  
 Environmental Science Associates

**Figure IV.L.4**  
 Day-Night Average Noise Level (Ldn)  
 Contours for Year 2010 Roadway Traffic



#### IV. Environmental Setting, Impacts and Mitigation Measures

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Peak hour traffic volumes of all approaches of the 15 intersections evaluated in Section IV.B., Transportation and Circulation, were compared with those forecast in the existing *General Plan*. The three greatest increases in traffic volumes were 23, 16, and 14 percent, on El Portal Drive at San Pablo Road, San Pablo Avenue at Robert H. Miller Drive, and San Pablo Avenue at Church Lane, respectively. The projected increases were input into the FHWA Traffic Noise Prediction Model (USDOT, 1978) to determine the relative increase in ambient noise levels 50 feet from the roadway center. In all cases, the forecast increases in traffic volumes resulted in an increase of less than 1 dBA. Consequently, the noise contours presented in Figure IV.L.4 would still be representative of traffic noise within the City of San Pablo with implementation of the updated General Plan.

Changes in traffic volumes with implementation of the updated General Plan compared to existing conditions would correlate with increases in population and employment within the City. The number of employed residents is projected to increase by approximately 11 percent over existing conditions with implementation of the updated General Plan. Employment within the City is projected to increase by approximately 17 percent over existing conditions with implementation of the updated General Plan. Traffic growth commensurate with these projections would result in increases of less than 1 dBA compared to existing (1990) conditions.

Therefore, implementation of the updated General Plan would have a less than significant impact on ambient noise levels from increased traffic volumes.

#### REFERENCES - Noise

City of Richmond, *Draft Technical Appendix for the Richmond General Plan*, 1992.

City of San Pablo, *General Plan*, Chapter VII, Noise Element, 1976.

Engineering-Science, Inc., *Technical Report for the Update of the Noise Element of the Richmond General Plan*, prepared for the City of Richmond, December 31, 1991.

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U.S. Department of Transportation (USDOT), *FHWA Traffic Noise Prediction Model*, 1978.

U.S. Department of Transportation (USDOT), Federal Transit Administration, *Transit Noise and Vibration Impact Assessment*, April 1995.

## **M. ENERGY**

### **SETTING**

#### **Sources of Energy**

Petroleum and natural gas supply most of the power consumed in California. Petroleum provides about 50 percent of the State's energy need, and natural gas provides about 29 percent (CEC, 1994). The remaining 21 percent of the State's energy need is provided by a variety of energy resources, including coal, nuclear, geothermal, and hydropower. Transportation is the major end-use of energy and accounts for about 50 percent of the total energy consumed in California.

#### **Existing Energy Resources**

Pacific Gas and Electric (PG&E) supplies electricity and natural gas to the City of San Pablo. San Pablo receives electricity through distribution lines from four electrical substations outside the City's limits. Currently there is spare capacity of electricity and natural gas serving the city. Electricity and natural gas infrastructure needs are typically determined with individual projects; with enough lead time PG&E can service the infrastructure needs of new development (Gabriel, 1995; Gore, 1995). See Section IV.F., Public Services and Utilities, for a discussion of electricity and gas services.

Average household energy expenditures in Contra Costa County have increased substantially during the past ten years. This increase is especially difficult for low-income residents whose household energy expenditures currently consume up to 20 percent of their gross income. In contrast, moderate- and high-income residents only spend two to five percent of their gross income on energy.

There is potential for reducing consumption of conventional energy sources in Contra Costa County. A building designed to be energy efficient will use only one-third to one-fifth as much overall energy per square foot as a typical existing building of the same design. Using a combination of conservation and solar technologies, the energy used can be reduced by 90 percent or more (City of San Pablo, 1993).

### Energy Regulations, Plans, and Policies

The energy consumption of new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the *California Code of Regulations* (CEC, 1992). The efficiency standards apply to new construction of both residential and non-residential buildings, and regulate energy consumed for space heating, cooling, ventilating, water heating, and lighting. The building efficiency standards are enforced through the local building permit process. San Pablo currently has no formal energy conservation plans or policies other than enforcement of Title 24 regulations through the building permit review process.

## IMPACTS AND MITIGATION MEASURES

### Significance Criteria

Under the CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would encourage activities that resulted in the use of large amounts of fuel or energy, or would use fuel or energy in a wasteful manner. There are no specific State or federal standards that indicate what is considered to be a "large amount" of energy. For purposes of this report, the project would be considered to use fuel or energy in a wasteful manner if it would use energy in a manner inconsistent with common energy conservation practices. In addition, the project would be deemed to have a significant effect if substantial changes in the utility infrastructure were needed to accommodate increased electricity and natural gas demand.

### Impacts

**Impact Energy-1: Energy consumption in San Pablo would increase due to development under the updated General Plan. This would be a significant impact.**

Additional development in the City of San Pablo would result in an increase in consumption of non-renewable energy resources, primarily petroleum. Substantial energy use associated with new development would occur during both the construction phase and operational phase of individual developments. During the construction phase, energy would be consumed in manufacturing the materials used for construction and for on-site construction activity, such as diesel fuel for construction equipment. During the operational phase, energy would be consumed primarily for transportation purposes, but also for such uses as lighting and space heating.



#### IV. Environmental Setting, Impacts and Mitigation Measures

##### M. Energy

For any given development, construction energy expenditures would be short-term, and would consist of both direct and indirect expenditures of energy. Combustion of the refined petroleum products needed to operate construction equipment would be a direct energy expenditure. Indirect energy is consumed through sectors that provide inputs to an activity, rather than energy consumed by the activity itself. For example, the use of a steel beam in construction indirectly represents energy consumed in all of the industries that contributed to the production of the beam (e.g., energy consumed through mining and extraction of raw materials, manufacturing, and transportation). Indirect energy typically represents about three-quarters of total construction energy; direct energy represents about one-quarter of total energy construction (Hannon, 1978).

Over the long-term, additional development in the City would result in increased consumption of petroleum, electricity, and natural gas. Petroleum consumption would increase in rough proportion to the increase in vehicle-miles-traveled (VMT) associated with land use development in the City. Electricity and natural gas consumption would increase in rough proportion to the number of residential units and the areal extent (i.e., square feet) of commercial and industrial development. Continued implementation of Title 24 (*California Code of Regulations*) would reduce the possibility of wasteful energy use with respect to building heating, cooling, ventilating, water heating and lighting. (All new buildings would be required to meet the standards for energy efficiency as set forth in Title 24.)

While Title 24 would ensure efficiency of building energy use, it would not apply to transportation energy consumption, which would continue to account for most of the energy consumed in the City. Energy consumption for transportation could be considered "wasteful" if reasonable attempts are not made to facilitate and encourage modes of transportation that are more energy-efficient than the automobile (e.g. bicycle and pedestrian, public transit modes). This would be a significant effect of the project.

#### **Impact Energy-1: Mitigation Measures Proposed as Part of the updated General Plan**

Section IV.B., Transportation and Circulation, lists a number of policies and actions from the Circulation, Public Facilities and Services Element of the updated General Plan that promote the use of alternative modes of transportation. Implementation of these policies and actions also would help to minimize the increase in energy use from mobile sources.



IV. Environmental Setting, Impacts and Mitigation Measures  
M. Energy

The following policies and actions in the proposed Environmental Resources Management Element would also help to promote energy conservation:

**Energy - Policy ER 1.28: Energy Conservation**

**Energy - Policy ER 1.29: Support for County Energy Policies**

**Energy - Policy ER 1.30: Designing for Energy Efficiency**

**Energy - Action ER 1.U: Energy Design Guidelines**

**Energy - Action ER 1.V: Coordination with PG&E**

**Impact Energy-1: Mitigation Measures identified by the Growth Management and Housing Elements of the current *General Plan***

None identified.

**Impact Energy-1: Mitigation Measures Identified in this EIR**

None required.

**Impact Energy-1: Significance After Mitigation**

The impact would be reduced to less than significant, through promotion of alternative modes of transportation and reduction in auto use (as well as incorporation of energy-efficient features into building design).

**Less-Than-Significant Impacts**

Development under the updated General Plan would require additional electrical or natural gas distribution lines. There is currently spare electrical capacity for service in the City, and PG&E does not anticipate a substantial increase in electrical demands from land uses in San Pablo, as the City is mostly built out (Gore, 1995). Electricity would be provided to unimproved parcels if the developer agrees to pay for on-site distribution line improvements and extensions.

The natural gas supply and transmission systems would have additional capacity to support new residential and light commercial development. The distribution system is designed for normal loads and pressures. Any new large industrial uses may require loading increases that would require additional natural gas pressures and/or pipelines (Gore, 1995). In order to serve the load demand for each parcel, distribution lines would have to be installed, extended, and/or upgraded.

#### IV. Environmental Setting, Impacts and Mitigation Measures

##### M. Energy

Policy 3.3 of the of the Circulation, Public Facilities and Services Element would "continue to foster the cooperative relationship with Pacific Gas & Electric for the provision of utility services to meet the City's future needs."

In summary, since the City is well served by the existing utility infrastructure and mostly built out, substantial changes in the utility infrastructure would probably not be necessary to accommodate additional development under the updated General Plan. This impact would be less than significant.

#### REFERENCES - Energy

California Energy Commission (CEC), *Energy Efficiency Standards for Residential and Nonresidential Buildings*, July 1992.

California Energy Commission (CEC), *Energy and the Economy*, 1994.

City of San Pablo, *General Plan, Housing Element*, Adopted February 3, 1992, Amended September 7, 1993.

Gabriel, Jose, Engineer, Pacific Gas & Electric Company, telephone conversation, June 19, 1995.

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Hannon, B., et al., "Energy and Labor in the Construction Sector," *Science* 202; pp. 837-847.

## V. IMPACT OVERVIEW

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### A. SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

The updated General Plan, if implemented, could result in significant adverse environmental impacts. Mitigation measures included as policies, programs, and regulations in the updated General Plan, as well as measures identified by this report, would reduce most of the impacts to a less-than-significant level. The following significant adverse impacts would be unavoidable, even with the implementation of the identified mitigation measures (page where impact appears is shown in parentheses):

**Impact Park-1: Development consistent with the updated General Plan would increase the need for parks, recreation facilities, and recreational programs. (p. IV.F.23)**

**Impact School-1: Development consistent with the updated General Plan would increase the number of students served by the West Contra Costa Unified School District. (p. IV.F.29)**

### B. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES AND COMMITMENT OF RESOURCES

Development allowed by the updated General Plan would require an irreversible commitment of natural resources for building construction, such as wood, refined metals, petroleum, and stone. It would result in the irretrievable commitment of energy and water to support the projected urban development that would occur. Where the development would involve substantial grading, excavation, or other alteration to existing topography, these effects would also be irreversible.

### C. GROWTH INDUCEMENT

Growth inducement concerns are related to those characteristics of a project that would foster or encourage population and/or economic growth. The updated General Plan would directly affect growth as a result of jobs or housing created as allowed under the Plan, secondary growth which might be fostered by the presence of new businesses or residents, and growth that might result from a development project that removes an obstacle to population or economic expansion.

Development consistent with the proposed updated General Plan would increase the City of San Pablo's population by approximately 3,040 people (from 1990 to 2010, based on reasonably foreseeable development) and introduce additional residential and commercial development, as well as employment, into the West Contra Costa County area. It would directly foster growth in the City of San Pablo as well as indirectly encourage additional growth in portions of the area surrounding the City, including Richmond and other East Bay communities.

Employment growth would occur within the area through the development of commercial land uses. Employment growth resulting from the project would not always be reflected directly in an increased demand for new housing, as some new jobs would be held by individuals who already live in the City, who live in the City but were previously unemployed, or who live outside the City by choice or for reasons of housing affordability. However, the growth in employment projected under the updated General Plan (from approximately 8,340 jobs in San Pablo in 1990 to approximately 9,600 jobs in 2010) would likely result in a demand for housing in San Pablo and in surrounding communities. As discussed in Section IV.C., Population, Employment, and Housing, San Pablo is currently a substantial net importer of labor (*i.e.*, the City has more employed residents than jobs). Anticipated development under the updated General Plan could slightly increase this imbalance, but policies in the updated General Plan emphasize mixed-use development that provides for residences in proximity to employment opportunities. Implementation of these policies could move the City toward a jobs-housing balance, which could have beneficial (or less adverse) effects on traffic and air quality.

Increased employment and housing resulting from the project would also increase the demand for retail goods and services provided through the commercial and regional shopping centers. The introduction of new retail and commercial uses could act to further attract new residents to the area as well as intensify development in portions of the City.

#### **D. CUMULATIVE IMPACTS**

CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA *Guidelines*, Section 15355). Because the direct impact of the updated General Plan would involve no immediate physical environmental impact, the EIR impact analysis has focused on the secondary (indirect) impacts of the updated Elements. These secondary impacts would result primarily from the development of the Mixed Use Districts and other parcels in the City.



Because these impacts would occur over time as part of individual residential and commercial development projects, a project horizon year (2010) was established for purposes of analysis in the EIR. The growth and changes in land use that were analyzed as secondary impacts of the project throughout the EIR were projected to the year 2010, employing a cumulative analysis methodology. Future growth was projected by the General Plan project team, based on an economic market study. Where appropriate, regional growth is also considered, as in Section IV.B, Transportation and Circulation.

As detailed in the body of the EIR, the updated General Plan would increase the intensity of urban uses in certain areas of San Pablo, particularly along San Pablo Avenue in the proposed Mixed Use Districts. The additional daily trips would add to the cumulative increase in traffic along major arterials in the region and along roadways within San Pablo. Related increases in the emission of total organic gases, carbon monoxide, and nitrogen oxides would all locally add to cumulative increases in vehicular emissions. Although the City is mostly built out, projected development under the updated General Plan also could decrease the undeveloped land within the City Limits, adversely affecting wildlife; add to the cumulative demand for hazardous waste disposal in Contra Costa County; and increase the amount of impervious surfaces within the City, thereby adding cumulatively to increased amounts of storm water runoff, which would lead to a degradation of water quality and could lead to increased flood hazards.

Projected growth resulting from implementation of the updated General Plan would also add cumulatively to the demand for police protection, fire suppression, school, and park and recreational services, and would add cumulatively to the demand for water supply. Generation of wastewater, storm water runoff (noted above), and solid waste by the new development would also add to cumulative increases in the demand for collection, treatment and disposal services for these wastes. Additional students would have a cumulative impact on school district facilities; in particular, elementary schools in the West Contra Costa Unified School District, which are currently overcrowded, would continue to have enrollment exceed capacity with implementation of the updated General Plan, and this impact would be aggravated by students generated by development in other communities that are served by the District.

#### **E. IMPACTS FOUND NOT TO BE SIGNIFICANT**

The following impacts were examined in the Initial Study and determined not to be significant and therefore are not analyzed further in this EIR:

- Alteration of air movement, moisture or temperature, or change in climate;
- Changes in currents, or the course or direction of water movements, in either marine or fresh waters
- Reduction in acreage of any agricultural crop;
- Increase in the rate of use of any natural resource;
- Substantial depletion of any non-renewable natural resource;
- Alterations to waterborne, rail or air traffic;
- Alterations to communications utilities; and
- Effects on unique cultural values or restrictions on religious or sacred use of the area.

Some types of impacts considered to be less-than-significant in the Initial Study are nevertheless analyzed in the EIR. Less-than-significant impacts are discussed at the end of most EIR sections.

## VI. ALTERNATIVES

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CEQA requires an evaluation of the comparative effects of a range of reasonable alternatives to the project which would feasibly attain most of the basic objectives of the project and reduce or eliminate significant effects (CEQA *Guidelines* Section 15126(d)). The range of alternatives is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA *Guidelines* Section 15126(d)(5)). Evaluation of a No-Project Alternative and identification of an environmentally superior alternative are required. The significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project (CEQA *Guidelines* Section 15126(d)(3)).

The following three alternative land use scenarios are considered:

- No-Project (No Development, Existing *General Plan*, Existing Zoning)
- Updated General Plan (Complete Buildout by 2010)
- Reduced-Density Alternative

### A. NO-PROJECT ALTERNATIVE

#### A.1. NO DEVELOPMENT ALTERNATIVE

A project-specific EIR typically analyzes a No Project Alternative that is the equivalent of a "No Development" alternative. That is, the No Project Alternative would result in disapproval or withdrawal of the project being analyzed, and the resulting impacts generally would be a maintenance of existing environmental conditions. For this EIR, which evaluates the impacts of buildout under the updated General Plan, disapproval or withdrawal of the "project" would result in the existing *General Plan* remaining in effect, and the environmental impacts would be those of buildout under the existing *General Plan* (and/or the existing zoning). A No Development alternative is not considered feasible, in that it would require that the City refuse to approve any development proposals in San Pablo. Should such a No Development alternative come to pass, however, the resulting impacts would be maintenance of existing environmental conditions as described in the Setting portions of Chapter IV for those conditions that would otherwise change with development in San Pablo. Certain impacts described in Chapter IV would occur whether or not additional development were to occur in San Pablo. For example, even with no future

development in San Pablo, traffic conditions on I-80 and San Pablo Avenue would be congested due to traffic traveling through San Pablo to and from other destinations; increased background traffic unrelated to San Pablo development would generate increased levels of criteria pollutants.

## **A.2. EXISTING *GENERAL PLAN***

### **DESCRIPTION**

This alternative would involve no change to the City's existing *General Plan*. For purposes of this discussion, buildout would occur consistent with the existing *General Plan* Land Use Map. The Mixed Use Districts proposed as part of the updated General Plan would not be established. Commercial uses would be concentrated around specific corridors along Rumrill Boulevard (where medium-density residential uses and District #5 are proposed under the updated General Plan), San Pablo Avenue (where Districts #1, #2, and #6 are proposed), 23rd Street (where medium-density residential uses and District #3 are proposed), and I-80/San Pablo Dam Road (where medium-density residential uses and District #8 are proposed). Most low-density residential would occur (as it does now) between San Pablo Avenue and the City's western boundary. Medium- and high-density residential uses would be located next to or in conjunction with commercial areas (similar to existing conditions). The Commercial/High Rise designation would allow construction of high rise residential development (from 8 to 20 stories) along a portion of San Pablo Avenue. Industrial uses would be located at the City's western boundary (where industrial uses and Districts #5 and #7 are proposed) along Giant Road and Rumrill Boulevard, away from most low-density residential uses. Parks and open space would be located along San Pablo Creek (where part of the Multi-Use Corridor is proposed) and in the hillside areas that are considered undevelopable due to slope and geologic constraints (similar to the updated General Plan). Existing *General Plan* land use designations are shown in Figure IV.A.2 in Section IV.A, Land Use.

The existing *General Plan* does not provide density standards for commercial and industrial uses, so it is difficult to determine how much additional development would be allowed. In comparison to what would be allowed by the updated General Plan, the primary difference is that there would be less acreage designated for multi-family residential uses. (This difference does not necessarily mean less development, however, because the updated General Plan intends to provide a more compatible level of development within the Mixed Use Districts by introducing open space and a higher quality of residential development.) There would also be less acreage designated for commercial and industrial uses (though the differences would be smaller).



Considering development that would be reasonably foreseeable by 2010 (reflected in ABAG's *Projections '94*), the number of households would increase to 10,800 under the existing *General Plan*, compared to 9,800 under the updated General Plan, and the year 2010 population of San Pablo would be approximately 33,400, compared to approximately 31,600 under the proposed project. Total employment in 2010 under this alternative would be about 8,950, compared to about 9,600 with the project.

All of the existing *General Plan* Elements (including the Growth Management and Housing Elements, which would also apply to the updated General Plan) would apply to this alternative.

## IMPACTS

Under this alternative, San Pablo would gain population at a slightly higher rate, and jobs at a slightly slower rate, than with the updated General Plan. Total population in 2010 would be about six percent more than with the project, and employment would be seven percent less. Densities in some areas of the City might be less than under the updated General Plan (particularly where the Mixed Use District concept fosters growth that might not otherwise occur); in other areas, densities might be higher (if commercial/high rise uses were developed, for example, or where the Mixed Use District concept results in more open space). The type and extent of commercial development envisioned by the existing *General Plan* might not be as feasible as the commercial development/mixed use concepts anticipated by the project, and this could result in a further diminution of employment. With less job growth than the updated General Plan, this alternative would result in San Pablo continuing to be an exporter of employed residents (and the jobs/housing balance would substantially worsen, compared to current conditions and the updated General Plan).

Impacts related to the intensity of development generally might be more substantial in some areas, and less substantial in others, with this alternative than with the project (for example, impacts might be greater along San Pablo Avenue under the existing *General Plan*, where high-intensity commercial/high-rise buildings could be developed). Land use incompatibilities could occur between potential industrial development along Rumrill Boulevard and existing residential development (though the designated commercial uses would serve as a buffer). More population would generate a greater number of trips than with the proposed project; less employment would generate a smaller number of trips than with the proposed project. Overall, traffic volumes would be lower at some intersections, and higher at others, than under the updated General Plan. For most of the 15 intersections studied, levels of service would be the same under both

scenarios (see Table VI.1). At four intersections each in the a.m. and p.m. peak hours, LOS would change relative to the updated General Plan: during both the a.m. and p.m. peak hours, LOS at three intersections would improve relative to the updated General Plan, and LOS at one intersection would worsen (from C to D at San Pablo Avenue/San Pablo Dam Road in the a.m. peak hour, and from B to C at El Portal Drive/San Pablo Dam Road in the p.m. peak hour). Generally, the intersections that would be congested under the updated General Plan (LOS E or F conditions) would also be congested under the existing *General Plan*. Similar to the updated General Plan, the LOS would not exceed the Level of Service Objectives established by WCCTAC. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project.

Fugitive dust generated by construction and demolition activities would occur and would still be significant, as with the updated General Plan. Increased traffic could also contribute to CO "hot spots" at congested intersections. The population increase that could occur under the existing *General Plan* is considered not to contribute to a regional air quality impact because the '94 *Clean Air Plan* is based on population projections consistent with the existing *General Plan*. However, the existing *General Plan* does not include the types of Transportation Control Measures delegated to local jurisdictions by the BAAQMD. For that reason, the existing *General Plan* could be considered inconsistent with the 94 *Clean Air Plan*, and the regional air quality impact would be considered significant. With more residential development than the updated General Plan, this alternative also would result in the creation of more sensitive land uses that could be exposed to odors and toxic air contaminants.

Noise generated by construction activities would occur and would be significant, similar to the updated General Plan. Given that traffic volumes with the existing *General Plan* would not be substantially different from those with the updated General Plan, and that it takes a substantial change in traffic volumes to result in a change in noise levels, traffic noise impacts of the existing *General Plan* would likely be similar to those of the updated General Plan. With more residential development than the updated General Plan, this alternative also would result in the creation of more new noise-sensitive land uses. Greater energy for residential use might be somewhat offset by less energy demand for commercial and industrial use, compared to the updated General Plan (overall energy usage is likely to be similar for the two scenarios).

TABLE VI.1: FUTURE (2010) AM & PM PEAK-HOUR INTERSECTION LEVELS OF SERVICE (LOS) AND VOLUME-TO-CAPACITY RATIOS (V/C) - EXISTING GENERAL PLAN AND UPDATED GENERAL PLAN

Signalized Intersections/a/	Existing General Plan				Updated General Plan				LOS Standard /b/
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		
	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS	
1. Rumrill Blvd. / Brookside Drive	0.41	A	0.45	A	0.40	A	0.46	A	D
2. San Pablo Ave. / Robert H.Miller Dr.	0.27	A	0.50	A	0.24	A	0.49	A	E
3. San Pablo Ave. / Road 20 / 23rd St.	0.99	E	1.00	E	0.98	E	0.96	E	E
4. San Pablo Ave. / El Portal Drive	0.75	C	0.88	D	0.81	D	0.90	D	E
5. San Pablo Ave. / Church Lane	0.60	A	0.63	B	0.61	B	0.66	B	E
6. San Pablo Ave. / San Pablo Dam Rd	0.82	D	0.59	A	0.75	C	0.67	B	E
7. San Pablo Dam Rd / I-80 WB on-off/c/	0.96	E	0.89	D	0.97	E	0.94	E	F
8. San Pablo Dam Rd / I-80 EB on-off/c/	0.98	E	1.12	F	1.01	F	1.10	F	F
9. San Pablo Ave. / Rumrill Blvd. /College Ln.	0.80	C	0.72	C	0.79	C	0.72	C	D
10. El Portal Drive / Road 20	0.24	A	0.36	A	0.27	A	0.38	A	D
11. El Portal Drive / San Pablo Dam Rd	0.70	B	0.72	C	0.66	B	0.70	B	D
12. El Portal Drive / I-80 WB off/c/	0.88	D	0.60	A	0.85	D	0.61	B	D
13. El Portal Drive / I-80 EB on-off/c/	0.65	B	0.61	B	0.65	B	0.63	B	D
14. 23rd Street / Rheem Avenue	0.60	A	0.68	B	0.59	A	0.66	B	D
15. 23rd Street / Barrett Avenue	0.27	A	0.53	A	0.29	A	0.50	A	D

/a/ Study intersections are shown on Figure IV.B.3 in Section IV.B.

/b/ Level of Service Objectives from WCCTAC, *West County Action Plan for Routes of Regional Significance*.

/c/ WB = Westbound; EB = Eastbound

SOURCE: DKS Associates



Impacts related to cleanup of hazardous materials or wastes in the City would be similar under this alternative, because the same environmentally impaired parcels could be developed.

Impacts related to the increased handling of hazardous materials and increased generation of hazardous wastes would be similar or slightly less with this alternative, because limited new industrial uses would be expected under both scenarios. Existing laws and regulations would largely govern the handling of hazardous materials.

Demand for most public services would be more substantial than with the project because of the higher population forecasts. As with the updated General Plan, projected elementary school enrollment would exceed capacity (and because adequate funding for school capacity might not be assured, this impact would still be unavoidably significant). More residential population, compared to the project, would increase the need for City park and recreation facilities, and this impact would still be unavoidably significant. The updated General Plan would provide more opportunities for community and urban open space, through the Mixed Use District concepts, than would the existing *General Plan*.

Impacts related to existing site-specific conditions, such as cultural resources, vegetation and wildlife, and geology, would be similar to those with the updated General Plan, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site. More new residents would be exposed to flood hazards and seismic hazards with development under the existing *General Plan*, compared to the development under the updated General Plan. Impacts related to potential contamination of surface waters due to point-source pollution would likely be about the same, because the extent of commercial and industrial development would be similar (or slightly less) with this alternative. Visual impacts could be greater than with the updated General Plan, because 1) the existing *General Plan* allows for high-rise development that could block views to a greater extent, and 2) the updated General Plan promotes District identities and visual guidelines that could result in greater visual continuity. Such impacts might be mitigated through use of building design and/or vegetative screening, but project-specific review could be required.



### A.3. EXISTING ZONING

#### DESCRIPTION

This alternative would be similar to A.2, Existing *General Plan*, except that buildout would occur consistent with the existing Zoning Map rather than the existing *General Plan* Land Use Map. The Mixed Use Districts proposed as part of the updated General Plan would not be established. The pattern of uses would generally be similar to the existing *General Plan*, except that the concentration of uses along Rumrill Boulevard would be more focused on commercial than industrial uses, and the concentration of uses along Market would be more focused on commercial than residential uses. In addition, the existing Zoning Map has an extensive amount of land (about 11 percent of the total) zoned as Planned Community (PC); the uses in this district are supposed to carry out the goals of the existing *General Plan*, but are not specifically named. For this analysis, it is assumed that the uses in these districts would be similar to what would be allowed under the existing *General Plan* (mostly commercial and multi-family residential). Existing Zoning designations are shown in Figure IV.A.3 in Section IV.A, Land Use.

The existing Zoning Ordinance does not provide density standards for commercial and industrial uses, so it is difficult to determine how much additional development would be allowed. In comparison to what would be allowed by the updated General Plan, the primary differences are that 1) there would be substantially more acreage designated for commercial uses, 2) there would be more acreage designated for industrial uses, and 3) there would be less acreage designated for single- and multi-family residential uses.

The analysis of the updated General Plan in the EIR is based on what is reasonably foreseeable by 2010, rather than complete buildout. If the updated General Plan were not approved and development occurred consistent with the Zoning Map, the development that would be reasonably foreseeable by 2010 would likely be similar to what would occur according to the existing *General Plan* scenario (i.e., development consistent with the existing Land Use Map). Population and employment growth would be similar to the existing *General Plan*, and impacts related to the level of population and employment (such as traffic and traffic-related noise and air quality impacts, and public services) would be similar to those under the existing *General Plan*. Most impacts related to the use of land for development, such as cultural resources and biological resources, would be similar to those under the existing *General Plan*, as those impacts would be largely a function of whether a particular parcel were developed. To the extent that the pattern of development under the Zoning Map differs from that under the existing *General Plan*

and updated General Plan, impacts in particular areas of the City could differ. For example, the Zoning Map designates less area for industrial uses along Rumrill Boulevard than does the updated General Plan, and thus, potential land use incompatibilities resulting from industrial development might be less under the existing Zoning Map.

## **B. UPDATED GENERAL PLAN BUILDOUT**

### **DESCRIPTION**

As stated previously, the analysis of the updated General Plan in the EIR is based on what is reasonably foreseeable by 2010, rather than buildout. The purpose of this scenario is to explore the potential impacts of buildout of the updated General Plan. Because the proposed project is the updated General Plan, this scenario is not related to a different approval that could be made by the City. Rather, this scenario indicates the type of impacts that could occur if development occurs beyond the levels assumed for this EIR. (Note that in the Project Description, it is noted that this EIR is based on assumptions about reasonably foreseeable development, and does not cover approval of the maximum development allowed under the updated General Plan.)

Based on the acreages and density standards presented in Section III, Project Description, this scenario would result in approximately 5.9 million square feet of commercial development, compared to about 4.2 million square feet of "reasonably foreseeable development" (about 40 percent more). This scenario would result in about 20,400 residential units, compared to about 9,830 of "reasonably foreseeable development" (about 108 percent more). Applying these percentage increases to population and employment (to give a rough basis for comparison), the population at buildout would be about 44,200 (compared to 31,600 in 2010) and employment would be about 20,000 (compared to 9,600 in 2010). The proposed policies and all other aspects of the updated General Plan would apply to this scenario.

### **IMPACTS**

Under the buildout scenario, San Pablo could gain population and employment at much higher rates than what is considered reasonably foreseeable with the updated General Plan. The difference in growth rates would depend on how quickly the City reaches buildout. Densities in some areas of the City might be higher than what is reasonably foreseeable under the updated General Plan, because parcels would be developed or redeveloped at higher densities than assumed; in other areas, densities would likely be the same (in some of the Mixed Use Districts,

for example, where increased development was assumed to be reasonably foreseeable). This scenario would result in more job and population growth than what is considered reasonably foreseeable, but the jobs/housing balance (ratio) would be about the same as was analyzed in Section IV.C. of this EIR.

Impacts related to the intensity of development generally might be more substantial in some areas, and about the same in others, with this scenario. More population and employment would generate a greater number of trips than what is considered reasonably foreseeable with the updated General Plan. Overall, traffic volumes would likely be higher at all intersections than those analyzed in Section IV.B. of this EIR. Generally, the intersections that would be congested with reasonably foreseeable development under the updated General Plan (LOS E or F conditions) also would be congested at buildout under the updated General Plan, and would likely be congested for longer periods. Additional intersections could be congested as well. In addition, the levels of service at several intersections might exceed the Level of Service Objectives established by WCCTAC (potentially leading to unavoidably significant impacts). Freeway operations on I-80 would be at LOS E/F to LOS F.

Fugitive dust generated by construction and demolition activities would occur and would still be significant, as with the updated General Plan. Increased traffic could also contribute to CO "hot spots" at congested intersections. Depending on how quickly it occurs, the population increase that would occur under the buildout scenario may or may not be considered to contribute to a regional air quality impact (i.e., if the increase occurs over the long term, it could be consistent with the assumptions in the *'94 Clean Air Plan*). As noted in Section IV.K of this EIR, the updated General Plan does include the types of Transportation Control Measures delegated to local jurisdictions by the BAAQMD. For that reason, the buildout General Plan could be considered consistent with the *94 Clean Air Plan*, and the regional air quality impact would be considered less-than-significant. With more residential development than what is considered reasonably foreseeable under the updated General Plan, this scenario would result in the creation of more sensitive land uses that could be exposed to odors and toxic air contaminants.

Noise generated by construction activities would occur and would be significant, similar to what is analyzed in Section IV.L of this EIR. Because traffic volumes under this scenario might be substantially higher than those analyzed in Section IV.L., traffic noise impacts of this scenario would also likely be greater than those analyzed. The noise contours for future conditions would be larger than shown in Section IV.L., and greater numbers of people could be exposed to unacceptable noise levels. With more residential development than what is considered



reasonably foreseeable under the updated General Plan, this scenario also would result in the creation of more new noise-sensitive land uses. There would be a greater demand for energy for residential use and for commercial and industrial use.

Impacts related to cleanup of hazardous materials or wastes in the City would be similar under this alternative, because the same environmentally impaired parcels could be developed.

Impacts related to the increased handling of hazardous materials and increased generation of hazardous wastes would be similar with this scenario, because limited new industrial uses would be expected in any case. Existing laws and regulations would largely govern the handling of hazardous materials.

Demand for public services would be more substantial than identified in Section IV.F. of the EIR, because of the higher population and employment forecasts. Similar to what was analyzed in Section IV.F., projected elementary school enrollment would exceed capacity (and because adequate funding for school capacity might not be assured, this impact would still be unavoidably significant). More residential population would increase the need for City park and recreation facilities, and this impact would still be unavoidably significant. The greater extent of development might provide more opportunities for community and urban open space through the Mixed Use District concepts, but the additional acreage would not likely be enough meet the proposed standards.

Impacts related to existing site-specific conditions, such as cultural resources, vegetation and wildlife, and geology, could be similar to those with the proposed project, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. The greater density and amount of development assumed for this scenario might result in some increases in site-specific impacts relative to what was analyzed in Section IV of this EIR. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site. More new residents would be exposed to flood hazards and seismic hazards, compared to the proposed project (but the substantial redevelopment that would need to occur for this scenario could result in improved structural conditions and an overall lowering of the potential risk). Impacts related to potential contamination of surface waters due to point-source pollution could be greater, because the extent of commercial development would be greater with this scenario. The increased development involved with the scenario could result in a potential increase in obstruction of views, but the greater number of development and redevelopment projects would



provide the opportunity to improve blighted conditions and fulfill the visual and design concepts in the updated General Plan.

### C. REDUCED-DENSITY ALTERNATIVE

#### DESCRIPTION

The Reduced-Density Alternative represents a variety of scenarios that could result in less intensive development than that envisioned by the updated General Plan. For one scenario, the Reduced-Density Alternative could assume the same land use designations for all parcels and Mixed Use Districts for all areas as does the updated General Plan, and assume that development would occur at a density lower than what was assumed for the EIR. That is, where the project would include, for example, commercial development in the Commercial designation at a floor-area ratio (FAR) of 0.4, this alternative would postulate development in the Commercial designation at a FAR of 0.3. Similarly, where the project would include multi-family, high-density residential development at 25-48 units per acre, this alternative would postulate medium-density residential development at 13-24 units per acre.

While the Reduced-Density Alternative could be achieved through across-the-board reductions in permitted development density, based on the assumptions outlined above, it could also represent a substantially greater reduction in permitted development on certain parcels (such as parcels within the Alquist-Priolo Zone, for example), compared to the project, while retaining the same level of development on other parcels as would the project. For example, this alternative could encompass the effects of a few key parcels being developed at a FAR that is below the low end of the density range specified in the updated General Plan, while the remaining parcels were developed at the FAR currently specified in the updated General Plan.

While limiting the FAR on a particular parcel would result in a reduced building "footprint" (area on the ground occupied by building[s]) other things being equal, a reduced footprint could also be achieved without a corresponding reduction in FAR by permitting additional building height. For example, a single-story building on a particular site has the same FAR as a two-story building that covers half of the same site. Changes in FAR generally result in changes related to intensity of development (for example, traffic congestion, air quality, traffic noise, population, demand for public services), while changes in building footprint generally result in changes in site-specific impacts (for example, effects on natural communities, geologic and hydrologic effects, and some visual effects). If building footprint were reduced to avoid site-specific effects

but FAR were to remain the same as proposed with the project, effects related to intensity of development, such as traffic conditions, would be generally the same as with the project. At a program level of analysis, as is undertaken in this EIR, effects related to intensity of development are more clearly identifiable, since site-specific effects must, in general, be more carefully analyzed when specific development proposals are made.

## IMPACTS

Impacts related to the intensity of development generally would be less substantial with this alternative than with the updated General Plan; that is, traffic, air quality, traffic-related noise, and demand for public services, including schools and parks, would be reduced. Daily and p.m. peak-hour trip generation would be less than with the project. Despite the reduced trip generation, the intersections that would be congested under the updated General Plan (LOS E or F conditions) would probably still be congested under the Reduced-Density Alternative. This is because a substantial portion of the traffic on San Pablo Avenue is a result of drivers who use San Pablo Avenue as an alternative to I-80 (see Section IV.B., Transportation and Circulation). Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project, again largely due to traffic not generated in San Pablo.

Fugitive dust generated by construction and demolition activities would occur and would still be significant, as with the updated General Plan. Increased traffic could also contribute to CO "hot spots" at congested intersections. The population increase that could occur under this alternative would be less than under the updated General Plan, and therefore, is considered not to contribute to a regional air quality impact (because population would be consistent with the *'94 Clean Air Plan* and the types of Transportation Control Measures included in the updated General Plan would still apply). With less residential development than the updated General Plan, this alternative would result in the creation of fewer sensitive land uses that could be exposed to odors and toxic air contaminants.

Noise generated by construction activities would occur and would be significant, similar to the updated General Plan. Given that traffic volumes with this alternative would not be substantially different from those with the updated General Plan, and that it takes a substantial change in traffic volumes to result in a change in noise levels, traffic noise impacts of this alternative would likely be similar to those of the updated General Plan. With less residential development than the updated General Plan, this alternative would result in the creation of fewer new noise-

sensitive land uses. There would also be less demand for energy for residential and commercial/industrial use.

Impacts related to cleanup of hazardous materials or wastes in the City could be similar under this alternative, because the same environmentally impaired parcels could be developed.

Impacts related to the increased handling of hazardous materials and increased generation of hazardous wastes would be similar or slightly less with this alternative, because limited new industrial uses would be expected under both scenarios. Existing laws and regulations would largely govern the handling of hazardous materials.

Demand for public services would be less than the demand that would be anticipated with the updated General Plan because of reduced population and employment. Because of the reduced population, compared to the project, school impacts would be less than with the project (but might still be unavoidably significant, given the lack of school capacity and the possibility that funding would not be adequate to provide additional capacity). Less residential population, compared to the project, would lessen the need for City park and recreation facilities; if the lower densities would allow more land to be available for open space, this impact might be less than significant (in contrast to the project, which would result in significant effects on park services).

Impacts related to existing site-specific conditions, such as vegetation and wildlife and geology, could be similar to those with the proposed project, depending on whether specific parcels were designated for substantially less density. As those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development, a uniform reduction in permitted density would not itself result in substantially different impacts compared to the project. If development on more environmentally sensitive parcels were more highly restricted, this alternative could have less impact than the project on those parcels. Impacts related to potential contamination of surface waters due to point-source pollution could be somewhat less than with the project due to the lesser commercial development with this alternative; actual effects would depend on the nature of the commercial development approved. This alternative would expose fewer residents to hazards such as flooding or seismic hazards (and if less development occurred within or near the Alquist-Priolo Zone, there could be less exposure to hazards related to fault surface rupture).

Impacts related to cultural resources (historic buildings and archaeological resources) would also largely be a function of the location, and not the nature, of development, and would be similar to or less than those of the updated General Plan.

Visual impacts could be less substantial than with the project due to the smaller amount of development. This would be particularly true if certain visually sensitive parcels were designated for substantially less development. Such impacts might be mitigated through use of building design and/or vegetative screening, but project-specific review could be required.

Because impacts of this alternative related to the intensity of development generally would be less substantial than with the proposed project, and because this alternative would not have significant, unavoidable effects on park and recreation services, in contrast to the proposed project, the Reduced Density Alternative is considered the environmentally superior alternative.



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## APPENDICES

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## APPENDIX A: TRANSPORTATION AND CIRCULATION

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# APPENDIX A: TRANSPORTATION AND CIRCULATION

TABLE A-1: SERVICE ADJUSTMENTS, CITY OF SAN PABLO

<u>Route</u>	<u>Weekday</u>	<u>Current/a/</u>		<u>Weekday</u>	<u>Proposed/a/</u>	
		<u>Saturday</u>	<u>Sunday</u>		<u>Saturday</u>	<u>Sunday</u>
69/b/	6:00 a.m. - 10:00 p.m.	9:00 a.m. - 8:00 p.m.	10:00 a.m. - 8:00 p.m.	6:00 a.m. - 7:00 p.m.	7:30 a.m. - 6:30 p.m.	7:30 a.m. - 6:30 p.m.
70	Commute service only	None	None	6:00 a.m. - 9:00 p.m.	No change	No change
71/c/	5:30 a.m. - 9:30 p.m.	8:00 a.m. - 8:00 p.m.	9:00 a.m. - 8:00 p.m.	6:00 a.m. - 7:00 p.m.	8:00 a.m. - 7:00 p.m.	8:00 a.m. - 7:00 p.m.
72	5:30 a.m. - 10:30 p.m.	5:30 a.m. - 10:30 p.m.	5:30 a.m. - 10:30 p.m.	No change	No change	No change
72L	Commute service only	None	None	No change	No change	No change
74/d/	5:30 a.m. - 10:00 p.m.	9:00 a.m. - 9:00 p.m.	9:00 a.m. - 8:00 p.m.	5:30 a.m. - 8:00 p.m.	9:30 a.m. - 6:30 p.m.	9:30 a.m. - 6:30 p.m.
76/e/	5:00 a.m. - 9:00 p.m.	8:00 a.m. - 7:00 p.m.	9:00 a.m. - 7:00 p.m.	5:00 a.m. - 7:00 p.m.	7:30 a.m. - 6:30 p.m.	7:30 a.m. - 6:30 p.m.
78	5:30 a.m. - 7:30 p.m.	7:00 a.m. - 7:00 p.m.	9:00 a.m. - 7:00 p.m.	5:30 a.m. - 7:00 p.m.	No service	No service

/a/ "Current" service was prior to December 1995. Proposed service is as of June 1996. All routes except the 72L will be affected by the Hilltop Mall route restructuring plan. The data shown reflect the new route pattern.

/b/ Weekend service on Line 69 will be to San Pablo Dam and Valley View only.

/c/ Weekend service on Line 71 will be between Contra Costa College and the West County Justice Center only.

/d/ Service on Line 74 was discontinued north of Hilltop Mall as of December 1995.

/e/ Combined with portion of Line 79 on Cutting Boulevard. Limited peak-hour service to Regatta Boulevard and Marina Way provided by Line 74.

SOURCE: AC Transit

TABLE A-2: LEVEL OF SERVICE STANDARDS FOR BASIC ROUTES

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<u>Land Use Type</u>	<u>Level of Service Standard</u>	<u>Range of Volume- to-Capacity Ratios</u>
Rural	Low "C"	0.70-0.74
Semi-Rural	High "C"	0.75-0.79
Suburban	Low "D"	0.80-0.84
Urban	High "D"	0.85-0.89
Central Business District	Low "E"	0.90-0.94

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SOURCE: City of San Pablo, *Growth Management Element of the General Plan*, April 1992;  
and Measure "C", Growth Management Program.

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TABLE A-3: TRAFFIC LEVEL OF SERVICE STANDARDS FOR ROUTES OF REGIONAL SIGNIFICANCE IN THE CITY OF SAN PABLO

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<u>Route of Regional Significance</u>	<u>Traffic Service Objective</u>
I-80 in WCCTAC Jurisdictions	<ul style="list-style-type: none"> <li>(1) Increase average vehicle occupancy in the peak direction by 15% by the year 2005</li> <li>(2) Increase corridor transit ridership by 20% by the Year 2000</li> <li>(3) Achieve 50% utilization of park/ride lots by 2000</li> <li>(4) Increase BART ridership at the three West County stations by 10% by 2000</li> <li>(5) Achieve commuter rail ridership of 6,400 per day on Fairfield and Brentwood corridors (to Oakland)</li> <li>(6) Increase Solano County BART Bus patronage by 20% over 1990 levels</li> </ul>
San Pablo Avenue	(1) Maintain LOS "E" or better at all signalized intersections through the year 2000
El Portal Drive	(1) Maintain LOS "D" or better at all signalized intersections
San Pablo Dam Road	<ul style="list-style-type: none"> <li>(1) Maintain LOS "D" or better at all signalized intersections, except at I-80 on/off ramps</li> <li>(2) Increase daily bus ridership on San Pablo Dam Road by 25% over 1992 levels</li> </ul>
23rd Street	(1) Maintain LOS "D" or better at all signalized intersections
Rumrill Road	(1) Maintain LOS "D" or better at all signalized intersections

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SOURCE: Contra Costa Transportation Authority (CCTA)

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TABLE A-4: TRANSPORTATION DEMAND MANAGEMENT

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- a. Support the WCCTAC TDM Program as an integral component of the overall West County transportation improvement effort that is underway. (WCCTAC jurisdictions, Transit Operators, West County Employers)
  - b. Work with the I-80 Transportation Marketing Group (TMG) to provide additional alternative transportation options and incentives during project construction. (WCCTAC jurisdictions)
  - c. Promote commute alternatives at the work place. In conjunction with the transit operators and "RIDES", provide ride matching services, facilitate formation of vanpool/shuttle service programs, and promote transit usage. (WCCTAC jurisdictions, West County Employers, Transit Operators, RIDES)
  - d. Develop a marketing/information program on commute alternatives. (WCCTAC, West County Employers, Transit Operators, RIDES)
  - e. In conjunction with Caltrans, the transit operators, and the jurisdictions, promote the development of a comprehensive plan for Park and Ride Lots in West Contra Costa County with a regional review process for Park and Ride Lot placement and design. (WCCTAC, Transit Operators, Caltrans)
  - f. Encourage development of interim and permanent Park and Ride facilities along the I-80, I-580, and State Route 4 corridors in conjunction with improvement projects. (WCCTAC jurisdictions, Transit Operators, Caltrans)
  - g. Develop TDM program policies for reporting, employer participation, compliance, monitoring and appeals. (WCCTAC, CCTA, West County Employers)
  - h. Monitor TDM program compliance and program effectiveness. (WCCTAC, CCTA)
  - i. Support a comprehensive West Contra Costa shuttle bus service connecting major work sites with BART stations. This program should first be pursued as a pilot demonstration project in areas that are not now being fully served by fixed route transit service. (WCCTAC jurisdictions, Transit Operators, West County Employers)
  - j. Obtain and maintain information on employee commute patterns through administration of employee transportation surveys; plan programs in response to needs or deficiencies identified. (WCCTAC)
  - k. Provide on-going support to West Contra Costa employers. (WCCTAC)
  - l. Develop and implement county-wide programs in coordination with other regions and the TDM Coordinating Committee. (WCCTAC)
  - m. Establish a mechanism for incorporating TDM requirements into the city planning permit process. (WCCTAC jurisdictions)
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SOURCE: Contra Costa Transportation Authority (CCTA)

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### Use of the West County Travel Demand Model

The West County Travel Demand Model considers four key circulation components in order to estimate travel demand: trip generation, trip distribution, mode choice, and trip assignment.

**Trip Generation.** Trip generation associated with development consistent with proposed land use designations under the updated General Plan, at typical densities, was calculated using the trip generation equations embedded in the West County Model. (See Section III, Project Description, for a discussion of the level of development analyzed in this EIR.) The model estimates the amount of different types of travel expected to come from different land uses on a daily basis. Trip types are:

- Home-based work
- Home-based shop/other
- Home-based social/recreation
- Home-based school
- Non-home-based

Within Contra Costa County the trip generation model consists of:

- a submodel to estimate households by income group and household size;
- a set of equations to estimate trip productions (*i.e.* the "home" end of a trip) using household size and income; and
- a set of equations to estimate trip attractions, using total employment, retail employment, service employment, other employment, households, and population.

After trip distribution and mode choice procedures are applied (see explanation below), peaking factors are applied to obtain trip patterns for a.m. and p.m. peak hours.

**Trip Distribution.** A gravity model was used to estimate the interaction of travel between different traffic analysis zones. The gravity model assumes that the amount of travel from one zone to all other zones is proportional to the number of trip attractions in each of the other zones, and inversely proportional to the travel impedance (factors that would increase the travel time relative to other choices) between each pair of zones. Impedances are measured using congested travel speeds for work trips. For non-work trips, free flow speeds are used. The travel impedances have a different effect on the average trip lengths for the different trip purposes.

**Mode Choice.** The mode choice models within Contra Costa County are consistent with the Metropolitan Transportation Commission regional models. For home-based-work trip purposes, there are four possible modes:

- Transit
- Drive-alone-auto
- Two-person auto
- Three-plus-person auto

For other trip purposes, only auto and transit trips are determined. An auto occupancy factor is used to convert auto person trips to auto vehicle trips that can be assigned onto the network.

Outside of Contra Costa County, fixed external mode probabilities are used as a basis for mode choice. The model allows for the percentage of transit trips to shift based on changes in the Contra Costa County transit network, such as BART extensions.

**Trip Assignment.** Before auto and transit trips can be assigned to the network, they are converted from 24-hour person-trip tables in production-attraction format to weekday a.m. peak hour, weekday p.m. peak hour, and off-peak period trip tables in origin-destination format.

Assignments are performed taking into account effects of roadway capacity and congestion on travel speeds such that, over a series of iterations, differences in travel speed from one model run to the next are insignificant, at which time *equilibrium* is said to be achieved.

For this study, the year 2010 land use database and demographic information for the City of San Pablo were refined to reflect changes proposed in the updated General Plan, as defined in Chapter III, Project Description; the database for the other areas in the West County Model was not changed.

TABLE A-5: CONTRIBUTION OF REGIONAL TRAFFIC TO TOTAL VOLUMES, SELECTED LINKS

Table 1: San Pablo Road, north of Road 20							
AM PEAK				PM PEAK			
Origin	Destination	Trips	Percent	Origin	Destination	Trips	Percent
External	External	2030	57%	External	External	1728	52%
External	City	675	19%	External	City	750	23%
City	External	575	16%	City	External	505	15%
City	City	271	8%	City	City	329	10%
	Total	3551	100%		Total	3310	100%
Table 2: 23 rd Street, south of San Pablo							
AM PEAK				PM PEAK			
Origin	Destination	Trips	Percent	Origin	Destination	Trips	Percent
External	External	877	60%	External	External	726	53%
External	City	206	14%	External	City	340	25%
City	External	284	20%	City	External	206	15%
City	City	84	6%	City	City	87	6%
	Total	1451	100%		Total	1359	100%
Table 3: San Pablo Dam Road, east of San Pablo Road							
AM PEAK				PM PEAK			
Origin	Destination	Trips	Percent	Origin	Destination	Trips	Percent
External	External	816	44%	External	External	672	37%
External	City	638	35%	External	City	380	21%
City	External	328	18%	City	External	675	37%
City	City	54	3%	City	City	77	4%
	Total	1836	100%		Total	1804	100%
Table 4: Rumrill blvd, south of California Avenue							
AM PEAK				PM PEAK			
Origin	Destination	Trips	Percent	Origin	Destination	Trips	Percent
External	External	886	62%	External	External	773	59%
External	City	278	19%	External	City	367	28%
City	External	268	19%	City	External	178	14%
City	City	0	0%	City	City	0	0%
	Total	1432	100%		Total	1318	100%

SOURCE: DKS Associates



## APPENDIX B: BIOLOGICAL RESOURCES

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## **APPENDIX B: BIOLOGICAL RESOURCES**

### **SPECIAL STATUS SPECIES - REGULATORY FRAMEWORK**

Special status species have varying degrees of legal protection under both Federal and California Endangered Species Acts (FESA and CESA), and recognition under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA). The United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG) share responsibility for management and protection of biological resources in the proposed project area. Under separate State and Federal legislation, each agency conducts a detailed review of any project that could affect a special status plant or animal species. If a species listed as endangered or threatened may be affected, the lead agency, as defined by CEQA and NEPA, must initiate a formal consultation with the USFWS and/or CDFG, as applicable under federal or state law (refer to Table B-1 for definitions of state and federal species protection categories).

#### **Summary of the Federal Endangered Species Act**

Federal law dictates that all federal departments and agencies shall use their authority to conserve endangered and threatened species as declared in FESA. The Act defines as "endangered" any species which is in danger of extinction throughout all or a significant portion of its range. A "threatened" species is any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Additional species of concern are divided into two other categories: 1) proposed for listing as threatened or endangered and 2) candidate for federal listing. "Proposed" endangered and threatened species are those species for which a proposed regulation has been published in the Federal Register, but not a final rule. Proposed species are granted limited protection under FESA and must be addressed in Biological Assessments (under Section 7 of the Act). USFWS typically reviews project plans and species information to determine the effects of federal actions on a proposed species. Any recommendations to modify or abandon the project and/or undertake protective measures for proposed species are not mandatory on the federal agency conferring with the USFWS. "Candidate" species are taxa that the USFWS is considering for listing as endangered or threatened species, these species being classified into three categories: Category 1 includes those species on which enough data is on file to support the federal listing; Category 2 are taxa which are threatened but distribution data is insufficient to support the federal listing and; Category 3 are non-candidate species which were previously considered candidate.

TABLE B-1: SPECIAL STATUS SPECIES REGULATORY CLASSIFICATION

***Federal Status***

Endangered	Species in danger of extinction throughout all or significant portion of its range.
Threatened	Species likely to become endangered within foreseeable future throughout all or significant portion of its range.
Category 1	Candidate information now available indicates that listing may be appropriate with supporting data currently on file.
Category 1*	Candidate information now available indicates that listing may be appropriate with supporting data currently on file; species presumed extinct.
Category 2	Candidate information now available indicates that listing may be appropriate but supporting data are not currently on file.
Category 2*	Candidate information now available indicates that listing may be appropriate but supporting data are not currently on file; species presumed extinct.
Category 3a	Non-candidate previously considered candidate but now extinct.
Category 3b	Non-candidate previously considered but not invalid taxonomically.
Category 3c	Non-candidate previously considered candidate but now too widespread or not threatened.

***California State Status***

Endangered	Species whose continued existence in California is jeopardized.
Threatened	Species, although not presently threatened with extinction, is likely to become endangered in the foreseeable future.
Rare	Species which may become threatened in the foreseeable future.
Special Concern	Animal species with California breeding populations that may face extinction in the near future.

***California Native plant Society***

List 1	A. Plants presumed extinct in California B. Plants are rare and endangered in California and elsewhere.
List 2	Plants are endangered in California, but more common elsewhere.
List 3	Plants about with more information is needed.
List 4	Plants of limited distribution (a "watch" list).

SOURCE: Environmental Science Associates

Candidate species are afforded no protection under FESA. Any recommendations to modify or abandon the project and/or undertake protective measures for candidate species are not mandatory under FESA.

The Federal Endangered Species Act (16 USC 1531 et seq.) Section 9 prohibits the "taking<sup>1</sup>" of listed species, including their habitat. If incidental taking might occur from a project, that is, if individuals of a listed species would be inadvertently harmed, harassed, or collected, or would suffer significant habitat modification, consultation with the USFWS is required. Section 7, which applies to federally funded or permitted projects or projects on federal lands, and Section 10(a), which applies to nonfederal projects and development on private land, require formal consultation where a project may affect a species currently listed as threatened or endangered. The USFWS recommends that candidate species and species proposed for listing also be considered in informal consultation during a project's environmental review. This is recommended because, in the event that a species were to be listed during the design or construction phases of a project (i. e., before occupancy), new studies and restrictions might be imposed.

#### Recent Legal Settlements

As the result of the 1991 out-of-court settlement between USFWS and CNPS (the lawsuit was brought against the USFWS to eliminate the existing backlog of candidate plant species), the USFWS is required to propose 159 plant taxa for endangered or threatened status by early 1996.

#### Reauthorization of FESA

Congressional action on the scheduled 1992 FESA reauthorization was delayed by elections until 1993 and is still debate. Early hearings on the issue indicate strong support to substantially modify key provisions of virtually all critical sections of the Act. The proposed modifications include the following;

- Incorporation of economic analyses and assessment of "takings" of private property,

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<sup>1</sup> "Take" is defined by Federal Regulation Code 17.3 (1975) as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. The term harm is defined as an act or omission which actually injures or kills wildlife, including acts which annoy it to such an extent as to significantly disrupt essential behavioral patterns, which include, but are not limited to, breeding, feeding, sheltering, or significant environmental modification or degradation of critical habitat that results in these effects."



- Establishing mandatory time schedules for preparation of recovery plans,
- Weakening the requirements for interagency cooperation under Section 7,
- Weakening the prohibitions of "take" of species under Section 9,
- Changing habitat conservation planning and the permit granting process for "take" under Section 10, and
- Adding requirements to compensate private individuals for economic losses resulting from listed species protection.

## SUMMARY OF CALIFORNIA STATE PLANT AND ANIMAL SPECIES PROTECTION

The legal framework and authority for the State's program to conserve plants and animals is woven from a number of pieces of legislation: the California Endangered Species Act (CESA), the California Native Plant Protection Act (NPPA), the California Environmental Quality Act (CEQA), the Natural Communities Conservation Planning Act (NCCPA), and various Sections of the Fish and Game Code.

The California Endangered Species Act (CESA) defines California endangered species as those whose continued existence in California is jeopardized. California rare or threatened species, although not presently threatened with extinction, may become endangered if their environments change or deteriorate. The Native Plant Protection Act also affords limited protection to special status plant species.

CEQA directs each state agency to consult with the CDFG on any project the agency initiates that is not statutorily or categorically exempt from CEQA. CEQA guidelines (Section 15065a) declare that impacts to rare, threatened or endangered plants or animals are significant. CEQA provides recognition not only for State-listed species, but for any species that can be shown to meet the criteria for State listing. The CDFG recognizes that lists 1A, 1B, and 2 of the California Native Plant Society Inventory consists of plants that, in a majority of cases, would qualify for listing.

The Natural Communities Conservation Planning Act was enacted in 1991 to promote long-term protection of species and habitats via regional, multispecies planning, before the special measures provided by CESA become necessary. The NCCPA does not supersede CESA or CEQA, but gives the CDFG the authority to enter into agreements with any person or entity to protect areas large enough to ensure the continued existence of multiple species and their habitats, with

allowing for "reasonable and appropriate urban growth". Under the NCCPA, a pilot conservation planning program was initiated for the southern California coastal sage scrub plant community.

The CDFG has developed a list of "Species of Special Concern." These animal species are defined as having California breeding populations which are of special concern in that they may face extinction within the State in the near future. By so listing a species, the CDFG draws attention to the potential for future designations of such species to a more protected status.

Fully protected species include those that are protected under Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These species, as well as certain other bird species, are afforded further protection under Sections 3503 (protection of nests and eggs), 3503.5 (protection of raptor eggs), and 3513 (protection of migratory birds) of the California Fish and Game Code as well as the federal Migratory Bird Treaty Act of 1914.

A formal consultation process must be initiated with the CDFG for projects that the State lead agency has determined may or will have an adverse effect on State listed species. As with USFWS policy, candidate species are not subject to the same consultation requirements as listed endangered, rare, or threatened species. CESA does encourage informal consultation for candidate species that may become officially listed prior to completion of the CEQA process.

In addition to providing formal and informal consultation, the CDFG has established the California Natural Diversity Data Base (CNDDB), a program that inventories the State's special status species and natural communities, and also provides information on their current listing status. The California Native Plant Society (CNPS) gathers information from the CDFG and amateur and professional botanists throughout the state, and contributes this information to the CNDDB. The CNPS publishes and regularly updates the *Inventory of Rare and Endangered Vascular Plants of California*. The *Inventory* has become the standard reference on California's rare and endangered plants.

#### Proposed CESA Reform

The Governor's comprehensive legislative proposal for the reform of the California Endangered Species Act is intended to fundamentally ease economic and regulatory burdens on private landowners and local governments and to improve natural resources management in California. The Bill provides;

- A shift from single species to multi-species conservation,
- Decisions to list or de-list a species would be based on "clear and convincing evidence" in addition to economic, social, and environmental impacts,
- Requires preparation of "Species Strategic Plans" for listed species,
- Voluntary agreements between landowners and public agencies regarding habitat protection,
- Public land would be used as the primary mitigation source for managing habitats,
- Provides local governing agencies additional authority to control land use and mitigation decisions through the review processes under CEQA,
- Eliminates the regulation of plants on private property,
- Clarifies the definition of "take" so that the modification of habitat is not equated with killing a listed species,
- Property owners would not be subject to penalties for the "inadvertent" killing of a listed species,
- Integrates the processes required under CESA and CEQA, marking a fundamental shift of State enforcement responsibility to locally-based planning. Local government entities will be given primary responsibility for determining mitigation measures for proposed projects., and
- Seeks a deferral of Federal oversight to the State.

## WETLAND PROTECTION - REGULATORY FRAMEWORK

A complex array of state and federal regulatory guidelines directs how the jurisdictional boundaries of wetlands are identified, defined, and regulated. The U.S. Army Corps of Engineers (Corps) is the major agency involved in wetland regulation under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. By a Memorandum of Agreement (MOA), dated January 6, 1994, the U.S. Department of Agriculture, the U.S. Department of the Interior, the U.S. Environmental Protection Agency (EPA), and the U.S. Department of the Army have recognized the U.S. Department of Agriculture's Natural Resource Conservation Service (formerly Soil Conservation Service) as the lead federal agency for delineating wetlands on agricultural lands. Additional agencies that have jurisdiction over wetlands within the state of California include the Environmental Protection Agency (oversight authority on Corps 404 permits), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Game (CDFG), California Coastal Commission (CCC), State Lands



Commission (SLC), California State Water Resources Control Board (SWQCB), in addition to regional and local agencies. The numerous agencies and statutory authorities that regulate wetlands within California are detailed below.

## UNITED STATES ARMY CORPS OF ENGINEERS

Wetlands are defined by the U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The Corps of Engineers Wetlands Delineation Manual (1987) establishes three criteria (wetland vegetation [hydrophytes], wetland [hydric] soils, and hydrology) to determine whether an area may qualify as a wetland. Wetlands generally include swamps, marshes, bogs, and similar areas.

The Corps has regulatory authority over navigable and other waters of the United States under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Certain activities such as emergency reconstruction of existing structures and construction of irrigation ditches in dry land are exempt from Section 404 permit requirements. The Corps regulates the construction of structures in, over, or under; excavation of material from; or deposition of material into navigable waters' under Section 10 of the Rivers and Harbors Act (1899). Corps permit authority under the Rivers and Harbors Act is not subject to EPA oversight or any other restrictions specific to the CWA. In many cases, the extent of Corps regulatory authority under Section 10 of the Rivers and Harbors Act overlaps with its authority under Section 404 of CWA.

In tidal areas, waters that fall within the Corps' Section 10 jurisdiction include those areas that are: subject to the ebb and flow of the tide up to the plane of Mean High Water (MHW); are no longer tidal but still fall below MHW; or are wetlands adjacent to regulated waters. In nontidal areas, jurisdiction extends to the Ordinary High Water Mark (OHWM), a line that, in the absence of hydrologic data, is evident from lake shoreline or stream or riverbank indicators (bank shelving, debris lines, etc.). This latter definition, which extends into and encompasses the Nation's "headwaters" (see below, Nationwide Permit Program), includes intermittent as well as perennial streams. Wetlands subject to Corps regulation may be either adjacent to navigable tidal or nontidal waters and their tributaries, or isolated from them. (A recent federal appeals court decision [Hoffman Homes, Incorporated v. EPA] has found that isolated wetlands cannot be regulated under the Clean Water Act, a decision that may be appealed to the Supreme Court.)



## Delineation of Wetlands and Jurisdiction Under Section 404 of the Clean Water Act

In 1987 the Corps published a manual which standardized the manner in which waters, including wetlands, were to be delineated nationwide<sup>2</sup>. To determine whether areas that appear to be wetlands are subject to Corps' jurisdiction (i.e., are "jurisdictional" wetlands), a wetlands delineation must be performed. Under normal circumstances positive indicators from three parameters (1) wetland hydrology, (2) hydrophytic vegetation, and (3) hydric soils (refer to the Glossary, at the end of this section for definitions of these terms).

### Individual 404 Permit

If a proposed activity would affect wetlands adjacent to "navigable" waters or their tributaries, or would affect greater than ten acres above the "headwaters" of navigable waters or their tributaries (see below - Nationwide Permits), then an application for an individual permit would be made to the Corps for to fill.

Several steps can be anticipated in the processing and review of an individual permit application, in the following general order: (1) A Public Notice would be issued by the Corps; (2) The Corps staff would analyze information provided by the applicant, request comment from other resource agencies, and conduct their own field visit to confirm the wetland delineation and to identify areas under the Corps' jurisdiction; (3) It would be determined whether the proposed fill were for a water dependent project; if not, (4) It would be necessary to demonstrate through preparation of an alternatives analysis pursuant to Clean Water Act Section 404 (b)(1) Guidelines that there were no practicable alternative upland sites and that there were no environmentally less damaging sites that did not affect special aquatic sites; (5) If the absence of practicable alternatives were successfully demonstrated, it would be necessary to provide mitigation for the

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<sup>2</sup> While the 1987 manual was effective in most circumstances, differences arose in certain instances among federal agencies which had their own wetland definitions. Consequently the Corps, EPA, Soil Conservation Service (SCS) and the U.S. Fish and Wildlife Service (USFWS) in 1989 published a new "unified" method for wetland delineation. Under the 1989 methodology an area meeting the minimum soils criteria and supporting plant species adapted to occasional saturated conditions was considered a jurisdictional wetland if the soil, even six to 18 inches below the surface, showed evidence of saturation for as little as seven consecutive days per year during the growing season.

Public and legislative debate concerning the 1989 methodology led to a new effort to refine the delineation criteria and methods. As a result, on August 14, 1991 a proposed new wetland delineation manual was published in the Federal Register for public review. The proposed manual, sponsored by the same four agencies, was intended to replace the 1989 manual. Public comment revealed considerable dissatisfaction with the proposed revised manual, and the revisions are currently undergoing extensive review following the close of public comment in October 1991. In the interim, the Corps has provided guidance through its Districts that, until a new (revised) delineation manual is completed and approved, the 1987 manual is to be used to identify and delineate wetlands potentially subject to Section 404 regulation.

fill, in sequence: first, avoiding the impact, second, if avoidance were not possible, minimizing the impact, and, only as a last resort, compensating for the loss by creating or restoring wetlands in equivalent kind and value. This sequencing of mitigation is spelled out in a Memorandum of Agreement between the Corps and EPA and is generally in keeping with the current Federal policy of "no net loss" of wetland acreage.

In evaluating the permit application, the Corps District Engineer would also consider the consistency of the proposed project with numerous factors reflecting the "public interest" and would conduct a review of environmental impacts of the project in accordance with the National Environmental Policy Act (NEPA).

#### Nationwide Permit Program

The Corps' Nationwide Permit program (NWP) is a form of general permit which the Corps can apply to projects that are substantially similar in nature and/or have minimal individual or cumulative adverse effect on waters, including wetlands. The purpose of the program is to assist in separating "significant" from "insignificant" activities and potential impacts, to reduce potential duplication with other governmental agencies, and reduce paperwork.

The Department of the Army authorized 36 Nationwide Permits, effective on January 12, 1992. Authorized under either Section 10 and Section 404, or both, the NWPs vary widely in types of activities covered. Twelve of the Permits require notification to the Corps and distribution of a Pre-discharge Notification (PDN). Nationwide Permit No. 26, provides a mechanism for processing and review of activities which would affect fewer than ten acres of waters, including wetlands, in areas that lie "above the headwaters." Headwaters are defined as having a mean annual flow of five cubic feet per second or less (33 CFR Parts 320 through 330), or, in the arid West, a flow of less than five cubic feet per second more than 50 percent of the time. This includes many intermittent streams.

Since NWP #26 is one of the NWPs requiring a PDN, if one to ten acres of stream and/or wetland fall within this definition, the Corps must be notified of any proposed action that would place fill in jurisdictional waters. The Corps may elect to process an individual permit or allow the proposed fill to proceed under the Nationwide Permit. Generally, the closer the proposed fill area is to one acre, the greater the probability that a Nationwide Permit may be issued. The Corps has provided in a Public Notice an outline of information required for preparation and

processing of a PDN. The Corps has 30 days in which to contact other agencies, receive their comments, and approve or deny the "application."

For filling of jurisdictional waters which fall outside this definition and/or are greater than ten acres, either another NWP may be considered, or an application for an individual permit would be filed with the Corps (see above). If less than one acre "lies above the headwaters" and meets the other conditions of the Nationwide permit program, no formal notification is required<sup>3</sup>.

However, the Corps has indicated that informal "notification" is advisable if there is any question as to the applicability of any Nationwide permit. To this end, written request would be made to the Chief of the Regulatory Section, Corps of Engineers, accompanied by a description of the property, a map documenting the findings of a preliminary wetland delineation, and other information recommended by the Corps.

#### U.S. FISH AND WILDLIFE SERVICE/NATIONAL MARINE FISHERIES SERVICE

The USFWS/NMFS have limited jurisdiction/authority over wetlands under the Fish and Wildlife Coordination Act (review and comment authority on all Corps Section 404 permits), Endangered Species Act (protection of threatened and endangered species and their habitat, which may include wetlands), and Migratory Bird Treaty Act (affords limited protection to migratory birds and their habitat). The USFWS has prepared a National Wetlands Inventory (NWI; Cowardin et al.,) that maps and describes the nations wetlands. Wetlands identified by the NWI may or may not be subject to regulation by the Corps due to differences in the definition of a wetland used by the Corps and USFWS. Unlike the Corps' jurisdictional definition of a wetland (requiring a positive indicator be present from all three parameters under normal circumstances), the USFWS's definition requires that only two parameters, wetland hydrology and either hydrophytic vegetation or hydric soils, be present for a site to be determined a wetland. Wetlands are defined by the USFWS as lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface of the land is covered by shallow water.

#### CALIFORNIA COASTAL COMMISSION

The California Coastal Commission has jurisdiction over activities within the coastal zone, including wetlands, under the California Coastal Act and Federal Coastal Zone Management

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<sup>3</sup> The San Francisco District of the Corps requires notification of any fill or alteration to wetlands, regardless of acreage.



Act. Within the coastal zone (generally 1,000 yards inland from the mean high tide), applicants for Section 404 or Section 10 permits must include a certification of consistency with the California Coastal Management Program. Within the Coastal Zone, the California Coastal Commission has jurisdiction of wetlands in addition to a 100 foot buffer zone.

The California Coastal Commission defines wetlands as lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackishwater marshes, swamps, mudflats, or fens (California Public Resources Code 30121). Although the Coastal Commission relies heavily on the USFWS (Cowardin et al.) wetlands classification system, they determine the wetland boundary (within the coastal zone) under normal circumstances as having a positive indicator from at least one criteria (wetland hydrology, hydric soils, or hydrophytic vegetation).

#### STATE WATER RESOURCES CONTROL BOARD

Section 401 of the Clean Water Act requires an applicant for a permit to discharge dredged or fill material into waters of the United States to first obtain a certificate from the appropriate state agency that the fill is consistent with state's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the State Water Resources Control Board to the Regional Water Quality Control Boards (RWQCB). A request for certification or waiver is submitted to the Regional Board at the same time that an application is filed with the Corps. The Board has 60 days to review the application and act.

Nationwide permits authorized under Section 404 must also have certification from the State Board. In the past, the Board has withheld certification from several of the NWP's, including #26, on a state-wide basis, requiring instead that any project qualifying for NWP #26 involving greater than two acres receive 60-day review, probable mitigation requirements, a public hearing, and approval of the water quality certification by the State Water Resources Control Board as an agenda item. Projects of any size may be brought before the Board (for certification approval or denial) if they are deemed to have a significant water quality impact.

The San Francisco Bay Area RWQCB wetland policy states that there should be no net loss of wetland acreage or value. For significant impact, the RWQCB generally requires mitigation (in-kind and preferably on-site). Mitigation measures may include a map, specific description of acreage that would be affected; the amount, location, and type of wetland restoration and/or creation proposed; a detailed planting plan; and long-term monitoring and maintenance plans.



## CALIFORNIA DEPARTMENT OF FISH AND GAME

The California Department of Fish and Game has authority over wetlands under five separate pieces of legislation:

- *Fish and Wildlife Coordination Act* - review and comment authority on Corps Section 404 permits,
- *Fish and Game Code Sections 1600-1607* - stream and lake bed alteration agreements,
- *California Wild and Scenic Rivers Act* - preservation of certain California river systems,
- *Section 30411 of the California Coastal Act* - CDFG becomes the lead agency for the study and identification of degraded wetlands within the coastal zone,
- *California Endangered Species Act* - affords protection to state listed threatened and listed species, and
- *California Wetlands Conservation Policy* - aims to ensure no overall net loss and a long-term net gain in wetlands acreage and value, reduce procedural complexity of state and federal wetlands conservation administration, and encourages partnerships that make restoration, landowner incentives, and cooperative planning the primary focus of wetlands conservation.

In general, CDFG asserts authority over wetlands within the state either through review and comment on Corps Section 404 permits, preservation of state listed species habitat (CESA), or through stream and lake bed alteration agreements. The CDFG has authority to oversee work in streams and lakes pursuant to Fish and Game Code Sections 1600-1607. A landowner or agency proposing to substantially divert the natural flow of a stream or lake, substantially alter its bed or bank, or use any material from the streambed, must first enter into a "Stream- or Lake-bed Alteration Agreement" with CDFG. The CDFG, while being able to impose reasonable conditions on the agreement, may not decline to enter into an agreement.

TABLE B-2: SPECIAL STATUS PLANT AND ANIMAL SPECIES POTENTIALLY OCCURRING IN THE SAN PABLO GENERAL PLAN UPDATE AREA

Common Name	Scientific Name	USFWS/CDFG/CNPS	General Habitat
<b>Birds</b>			
Black-crowned night heron	<i>Nycticorax nycticorax</i>	- / *	Colonial nester in trees, occasionally in tule patches - rookery sites located adjacent to foraging areas near lakes, mud-bordered bays, and marshy spots
Black-shouldered kite	<i>Elanus caeruleus</i>	- / *	Low rolling foothills and valley margins with scattered oaks and river bottomlands or marshes adjacent to deciduous woodlands - isolated dense-topped trees for nesting
Burrowing owl	<i>Speotyto cunicularia</i>	FC2/CSC	Nests in burrows of small mammals in grasslands
California black rail	<i>Laterallus jamaicensis coturniculus</i>	FC2/CT	Mainly inhabits salt marshes bordering larger bays with heavy pickleweed or emergent growth
California clapper rail	<i>Rallus longirostris obsoletus</i>	FE/CE	Salt marshes transversed by tidal sloughs - associated with abundant growths of pickleweed
California horned lark	<i>Ermophila alpestris actia</i>	FC2/CSC	Rolling hills - valley and foothill grasslands
Caspian tern	<i>Sterna caspia</i>	- /CSC	Nests in small colonies inland and along the coast bordering fresh-water lakes and marshes and brackish or salt waters of estuaries and bays
Cooper's hawk	<i>Accipiter cooperi</i>	- /CSC	Nests in dense forests, oak woodlands, riparian habitats
Double Crested Cormorant	<i>Phalacrocorax auritus</i>	- /CSC	Undisturbed ledges, cliffs, or rugged slopes near water
Ferruginous hawk	<i>Buteo regalis</i>	FC2/CSC (wintering)	Winters in Central Valley and woodland habitats and orchards in Coast Ranges
Great blue heron	<i>Ardea herodias</i>	- /CSC (nesting)	Colonial nester in tall trees, cliffsides, and sequestered spots on marshes
Loggerhead shrike	<i>Lanius ludovicianus</i>	FC2/CSC	Dense shrubs and trees near water
Northern harrier	<i>Circus cyaneus</i>	- /CSC (breeding)	Marshes
San Pablo song sparrow	<i>Melospiza melodia samuelis</i>	FC2/CSC	Brackishwater marshes with cattails and tules surrounding San Pablo Bay
Salt marsh yellowthroat	<i>Geothlypis trichas</i>	FC2/CSC	Nests in freshwater willows and forages in saltmarshes

(Continued)

TABLE B-2: SPECIAL STATUS PLANT AND ANIMAL SPECIES POTENTIALLY OCCURRING IN THE SAN PABLO GENERAL PLAN UPDATE AREA (Continued)

Common Name	Scientific Name	USFWS/CDFG/CNPS	General Habitat
Sharp-shinned hawk	<i>Accipiter striatus</i>	- /CSC	Nests in dense forests, oak woodlands, riparian habitats
Short-eared owl	<i>Asio falmmeus</i>	- /CSC (breeding)	Nests on dry ground with dense grass or shrub cover
Snowy egret	<i>Egreta thula</i>	- / *	Colonial nester in protected beds of dense tules - rookery sites located close to foraging areas along marshes, tidal-flats, streams, meadows, and lakes
Suisun song sparrow	<i>Melospiza melodia maxillaris</i>	FC2/CSC	Brackishwater marshes with cattails and tules surrounding Suisun Bay
<b>Mammals</b>			
American badger	<i>Taxidea taxus</i>	- / *	Friable soils in open grasslands
Greater western mastiff-bat	<i>Eumops perotis californicus</i>	FC2/CSC	Crevices on cliff faces, high buildings, trees, and tunnels
Pacific western big-eared bat	<i>Plecotus townsendii townsendii</i>	FC2/CSC	Inhabits caves, buildings, and rock outcroppings usually in association with desert scrub and/or pinion-juniper plant communities.
Salt marsh harvest mouse	<i>Reithrodontomys raviventris</i>	FE/CE	Tidal marshes of the northern shores of San Pablo and Suisun Bays with dense low-lying cover and driftwood
Salt marsh wandering shrew	<i>Sorex vagrans halicoetes</i>	FC1/CSC	Medium high salt marshes of the south arm of San Francisco Bay, where abundant driftwood is scattered among pickleweed
San Francisco duskey footed woodrat	<i>Neotoma fuscipes annectens</i>	FC2/CSC	Dense chaparral and forest habitats - Builds conspicuous cone-shaped stick houses on ground or on lower branches of oaks
San Pablo vole	<i>Microtus californicus sanpabloensis</i>	FC2/CSC	Saltmarshes of San Pablo Creek - constructs burrows in soft soil and feeds on grasses, sedges, and herbs
<b>Reptiles</b>			
Alameda whipsnake	<i>Masticophis lateralis euryxanthus</i>	FC1/CT	Scrubs with scattered grassy patches, on rocky hillsides, gullies, or canyons, with stream courses supporting riparian vegetation
California coast horned lizard	<i>Phrynosoma coronatum frontale</i>	FC2/CSC	Friable soils in shrub habitat

(Continued)

TABLE B-2: SPECIAL STATUS PLANT AND ANIMAL SPECIES POTENTIALLY OCCURRING IN THE SAN PABLO GENERAL PLAN UPDATE AREA (Continued)

Common Name	Scientific Name	USFWS/CDFG/CNPS	General Habitat
Southwestern pond turtle	<i>Clemmys marmorata pallida</i>	FC2/CSC	Slow moving streams with open areas for basking
<b>Amphibians</b>			
California red-legged frog	<i>Rana aurora draytoni</i>	FPE/CSC	Ponds and slow moving streams with dense thickets of cattails or other emergent vegetation and no canopy
California tiger salamander	<i>Ambystoma californiense</i>	FPE/CSC	Ponds and slow moving streams generally within grasslands with abundant fossorial mammals
Foothill yellow-legged frog	<i>Rana boylei</i>	FC2/CSC	Permanent streams are necessary to meet this species' foraging, cover, and reproductive requirements
Western spadefoot toad	<i>Scaphiopus hammondi hammondi</i>	FC2/CSC	Vernal pools and seasonally wet areas
<b>Invertebrates</b>			
Bay checkerspot butterfly	<i>Euphydryas editha bayensis</i>	FT/ -	Serpentine grasslands that support larval host plants <i>Plantago erecta</i> and <i>Orthocarpus densiflorus</i> and adult nectar plants including <i>Layia platyglossa</i> , <i>Lomatium</i> sp., <i>Allium</i> sp., and <i>Lasthenia californica</i> .
Callippe silverspot butterfly	<i>Speyeria callippe callippe</i>	FC1/ -	Coastal grasslands that support <i>Viola pedunculata</i> and adult nectar plants including various species of thistle
Helminthoglypta	<i>Helminthoglypta nickliniana bridgesi</i>	FC2/ *	Tall grasses and weeds in open hillsides of Alameda and Contra Costa Counties
Monarch butterfly	<i>Danus plexippus</i>	- / *	Winter roost sites located in wind-protected tree groves (generally eucalyptus, Monterey pine, cypress) with nectar and water sources nearby along the coast from northern Mendocino to Baja California, Mexico
<b>Plants</b>			
Adobe sanicle	<i>Sanicula maritima</i>	FC2/CR/List 1B	Grasslands, coastal prairie, chaparral, and meadows with clay or serpentine substrates
Alameda manzanita	<i>Arctostaphylos pallida</i>	FC1/CE/List 1B	Chaparral and cismontane woodlands on siliceous shale or sandstones
Brewer's western flax	<i>Hesperolinon breweri</i>	FPT/CT/List 1B	Chaparral, cismontane woodlands, and grasslands, often associated with serpentine
California sueda	<i>Suaeda californica</i>	PE/ -	Coastal salt marsh
Contra Costa buckwheat	<i>Eriogonum truncatum</i>	FC3a/ - /List 1A (last seen 1940)	Sandy and open spots within chaparral, coastal scrub, and valley and foothill grasslands

(Continued)



TABLE B-2: SPECIAL STATUS PLANT AND ANIMAL SPECIES POTENTIALLY OCCURRING IN THE SAN PABLO GENERAL PLAN UPDATE AREA (Continued)

Common Name	Scientific Name	USFWS/CDFG/CNPS	General Habitat
Diablo helianthella	<i>Helianthella castanea</i>	FC2/ - /List 1B	Chaparral, scrub, and woodlands
Diamond-petaled California poppy	<i>Eschscholzia rhombipetala</i>	FC2/ - /List 1A (last seen 1950)	Clayey valley and foothill grasslands
Fragrant fritillary	<i>Fritillaria liliacea</i>	FC2/ - /List 1B	Coastal prairie, scrub, and grasslands, often underlain by serpentine
Hairless popcornflower	<i>Plagiobothrys glaber</i>	FC3a/ - /List 1A (last seen 1954)	Alkaline meadows and coastal salt marshes
Hospital Canyon larkspur	<i>Delphinium californicum</i> ssp. <i>interius</i>	FC2/ - /List 1B	Mesic places within cismontane woodlands
Kellog's horkelia	<i>Horkelia cuneata</i> ssp. <i>sericea</i>	FC2/ - /List 1B	Coastal scrub and coniferous forests
Large-flowered fiddleneck	<i>Amsinckia grandiflora</i>	FE/CE/List 1B	Cismontane woodlands and grasslands
Most beautiful jewel-flower	<i>Streptanthus albidus</i> ssp. <i>permoenus</i>	FC1/ - /List 1B	Chaparral and grasslands, often associated with serpentine
Mount Diablo phacelia	<i>Phacelia phacelioides</i>	FC2/ - /List 1B	Rocky spots within chaparral and cismontane woodlands
Presidio clarkia	<i>Clarkia franciscana</i>	PE/ -	Serpentine scrubs and grasslands
Point Reyes bird's-beak	<i>Cordylanthus maritimus</i> ssp. <i>palustris</i>	FC2/ - /List 1B	Coastal salt marsh
Santa Cruz tarplant	<i>Holocarpha marcradenia</i>	FC1/CE/List 1B	Coastal prairie and grasslands, often on sandy or clayey soils (40-400 feet)
San Francisco owl's-clover	<i>Triphysaria floribunda</i>	FC2/ - /List 1B	Coastal prairie, valley and foothill grassland - generally below 300 feet
Showy Indian clover	<i>Trifolium amoenum</i>	FC2*/ - /List 1B	Grasslands, often associated with serpentine - rediscovered in 1993

**STATUS CODES:****FEDERAL:** (U.S. Fish and Wildlife Service)

FE=Listed as Endangered by the Federal Government

FT=Listed as Threatened by the Federal Government

FPE=Proposed for Listing as Endangered

FC1=Category 1 Candidate for Federal listing

FC2=Category 2 Candidate for Federal listing

FC2\*=Category 2 Candidate for Federal listing - presumed extinct

FC2R=Recommended for Category 2 Candidate status for listing

FC3a=Extinct

**STATE:** (California Department of Fish and Game)

CE=Listed as Endangered by the State of California

CT=Listed as Threatened by the State of California

CR=Listed as Rare by the State of California

**California Native Plant Society**

List 1A=Plants presumed extinct in California

List 1B=Plants rare, threatened, or endangered in California and elsewhere

List 2= Plants rare, threatened, or endangered in California but more common elsewhere

List 3= Plants about which more information is needed

List 4= Plants of limited distribution - a watch list

SOURCE: USFWS, 1993; CNPS, 1994; CNDDB, 1995; Environmental Science Associates, 1995.



## APPENDIX C: PUBLIC HEALTH AND SAFETY

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## **APPENDIX C: PUBLIC HEALTH AND SAFETY**

### **REGULATORY FRAMEWORK**

#### **Federal**

The United States Environmental Protection Agency (U.S. EPA) is responsible for enforcing regulations at the federal level pertaining to hazardous materials and wastes. The primary federal hazardous materials and waste laws are contained in the Resource Conservation and Recovery Act of 1976 (RCRA), and in the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). These laws require that responsible parties report any known hazardous waste contamination of soil or groundwater to the U.S. EPA. Any contamination that threatens public health or the environment must be remediated by the responsible party according to certain standards set by the U.S. EPA.

State and local agencies also must be involved. Reporting must include the California Department of Toxic Substances Control, the San Francisco Bay Regional Water Quality Control Board, or the Contra Costa County Health Services Department, depending on specific circumstances.

Federal statutes pertaining to hazardous materials and wastes are contained in the Code of Federal Regulations (40 CFR). The regulations contain specific guidelines for determining whether a waste is hazardous, based on either the source of generation or the properties of the waste. Determination of standards for remediation of soil and groundwater contamination is performed on a case-by-case basis. However, federal guidance exists for determining acceptable levels of residual contaminants in soil and groundwater.

#### **State and Regional**

The U.S. EPA has delegated much of its regulatory authority to individual states whenever adequate state regulatory programs exist. The Department of Toxic Substances Control (DTSC), part of the California Environmental Protection Agency, enforces hazardous materials and waste regulations in California in conjunction with the U.S. EPA.

California hazardous materials and waste laws incorporate federal standards, but are stricter in many respects. For example, the California Hazardous Waste Control Law (HWCL), the state equivalent of RCRA, contains a broader definition of hazardous materials and waste than



contained in Federal regulations. Some substances not considered hazardous under federal law are considered hazardous under state law. In addition, the California Hazardous Substance Account Act, essentially the equivalent of CERCLA, contains a provision for designation of state funds to clean up sites where private funding is unobtainable. State hazardous materials and waste laws are contained in the California Code of Regulations (CCR), Title 22.

Regulations implementing the HWCL list 791 hazardous chemicals and 20 to 30 relatively common materials that may be hazardous; establish criteria for identifying, packaging and labeling hazardous wastes; prescribe management of hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal and transportation; and identify hazardous wastes that cannot be disposed of in landfills.

When hazardous waste is transported for treatment or disposal, hazardous waste manifests must be prepared and retained by the generator for a minimum of three years. A hazardous waste manifest lists a description of the waste, its intended destination, and regulatory information about the waste. A copy of each manifest must be filed with DTSC. The generator must match copies of hazardous waste manifests with receipts from the treatment / disposal / recycling facility. State regulations concerning transport of hazardous materials and hazardous wastes are discussed later in this section.

Pursuant to the Emergency Services Act, California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state and local agencies. Response to incidents involving hazardous materials is one part of this plan, which is administered by the Office of Emergency Services.

AB 2185, the state Hazardous Materials Release Response Plans and Inventory Law of 1985 (i.e. the Business Plan Act) requires that any facility that handles over 500 pounds of hazardous materials in one year prepare a business plan for emergency response to a release or threatened release of a hazardous material. The contents of the business plan must include details of the facility, including floor plans; an inventory of hazardous materials handled or stored on the site; an emergency response plan that includes procedures for immediate notification of the administering agency and local emergency rescue personnel, mitigation of a release to minimize any potential harm, and evacuation of the site; and a training program in safety procedures and emergency response for new employees and an annual refresher course for all employees.

Business plans must be reviewed and, if necessary, updated biennially. A substantial change in a hazardous material handler's operations would require that an updated plan be submitted to the administering agency within 30 days of the change. Hazardous material inventory forms must be updated annually.

The California Safe Drinking Water and Toxics Enforcement Act (Proposition 65) does not directly apply to hazardous wastes but requires that businesses warn employees and other individuals of exposures to state-listed substances that cause cancer, birth defects, or other reproductive harm. Businesses are also prohibited from knowingly discharging listed substances into water or land where the substance could get into drinking water. If any listed chemical should get into a drinking water supply, the discharger of the chemical would be liable.

The project area is located within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The RWQCB is authorized by the State Water Resources Control Board to enforce the provisions of the Porter-Cologne Water Quality Control Act of 1969, which incorporates federal water protection laws. That Act gives the RWQCB authority to require groundwater investigations when the quality of the groundwaters or surface waters of the state have been or could be threatened, and to remediate the site if necessary.

For sites requiring remediation, the level of site cleanup is determined on a case-by-case basis. The State DTSC, the RWQCB, or a local agency can act as the lead state agency in site investigations and remediation projects. The state determines the level and extent of required cleanup, based on the specific site conditions and surrounding land uses. State cleanup standards can be more restrictive than federal standards; both state and federal standards are used to determine cleanup levels. Cleanup standards employed by the RWQCB can be more stringent than those used by EPA or DTSC, and are region-specific.

If soils containing hazardous materials are excavated, the Bay Area Air Quality Management District (BAAQMD) may impose specific requirements on such activities to protect ambient air quality from dust or airborne contaminants. BAAQMD requirements also cover asbestos abatement during building demolition.

### Local

Contra Costa County's goals, objectives, and policies for managing hazardous wastes and hazardous waste facilities are set forth in the *County Hazardous Waste Management Plan*

(Contra Costa County, 1989). The County's Plan provides a comprehensive, in-depth look at all aspects of hazardous waste management, from generation through disposal. Local ordinances, plans, and programs for managing hazardous wastes are summarized in Chapter 2, Section VI of the County's Plan (Contra Costa County, 1989).

Although the State has primary responsibility for the enforcement of hazardous waste requirements in California, the State recognizes the authority of the local Health Officer to enforce State regulations adopted by the DTSC. The County Health Officer is responsible for the surveillance of facilities where hazardous wastes are stored, handled, processed or disposed. The State assumes this responsibility only when mutually agreed upon with the County Health Officer (Contra Costa County, 1989).

The Contra Costa County Health Services Department (HSD), Hazardous Materials Division, oversees cleanup of contaminated soil at hazardous waste sites in the County. At sites where contamination is suspected or known to occur, the project sponsor performs a site investigation. If contamination is discovered during an excavation, the County requires that the project be halted while further studies are conducted.

The site investigation report and the consultant's recommendations for site remediation must be submitted to the County Health Services Department for review and approval. At that time the County may require any additional measures it deems necessary. Depending on circumstances, other agencies, such as DTSC and the RWQCB, may become involved in overseeing cleanup of a site. If groundwater contamination is an issue at the site, the RWQCB also reviews the site investigation report and remediation plans. Both agencies have approval authority over site cleanup activities and can require additional or stricter remediation measures.

Site remediation or development may be subject to regulation by other agencies. For example, if extraction of contaminated groundwater or construction dewatering of a hazardous waste site is required, subsequent discharge of such waters to the sanitary district collection system would require a permit.

Throughout Contra Costa County, Hazardous Materials Management Plans (Business Plans) must be prepared for the County by businesses that use or store hazardous materials. The County provides copies of Business Plans to the local fire department.



Article 80 of the *Uniform Fire Code* covers the storage, use, and handling of hazardous materials, including flammables, combustibles, and toxics. The definition of toxic is less precise than in hazardous waste regulations. There is no formal list. All that is required is that a study indicates the material may be detrimental to health. Used motor oil is excluded from Article 80 requirements (it is covered elsewhere). Exempt quantities exist for some materials and these quantities vary according to the material.

The HSD issues permits for installation of underground storage tanks (USTs). For removal of USTs, both the county Health Services Department and the local Fire Department become involved. A closure plan for UST removal must be prepared by the applicant and submitted to HSD. Upon approval of the UST closure plan, the HSD issues a permit for tank removal. Bay Area Air Quality Management District Regulation 8, Rule 40 limits emissions of organic compounds from soil contaminated with petroleum or other volatile organic chemicals. Rule 40 describes acceptable procedures for aeration of contaminated soil and for controlling emissions during removal of underground tanks.

Contra Costa County operates its own local emergency response agency in the Office of Environmental Health. Environmental Health Emergency Response personnel are available to respond to a hazardous materials release around the clock, seven days a week. Personnel are able to advise fire or law enforcement agencies of human health and safety, as well as environmental requirements for mitigation and cleanup in the event of a release of hazardous materials. In practice, this can range from telephone consultation regarding a relatively minor release of a known compound, to on-scene response to a major accident. On-site response may entail assistance in scene stabilization, identification of unknown materials, assessment of hazards, planning and oversight of remedial action.

Scene stabilization assistance by Environmental Health Emergency Response personnel includes setting perimeters for first responders and advising the scene commander of necessary evacuation parameters. Closing roadways or building could be advised, and preliminary containment or mitigation might also be recommended. Hazard assessment would include qualitative evaluation of the hazard posed by the release of a hazardous substance, considering its properties, migration or dispersion potential, and potential receptors; in addition, hazards to emergency responders would be assessed and appropriate protective measures would be prescribed.



## HAZARDOUS MATERIALS WORKER SAFETY REQUIREMENTS

The California Occupational Safety and Health Administration (Cal/OSHA) and the Federal Occupational Safety and Health Administration (Fed/OSHA) are the agencies responsible for assuring worker safety in the handling and use of chemicals in the workplace. Pursuant to the Occupational Safety and Health Act of 1970, Fed/OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous materials handling. Cal/OSHA assumes primary responsibility for developing and enforcing state workplace safety regulations. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in 29 CFR. Cal/OSHA standards are generally more stringent than federal regulations.

Cal/OSHA regulations concerning the use of hazardous materials in the workplace, as detailed in Title 8 of the California Code of Regulations, include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that Material Safety Data Sheets be available to employees and that employee information and training programs be documented.

Properties found to be contaminated are subject to special worker safety requirements to protect construction workers during demolition and excavation, and to protect site investigation and cleanup workers who are performing site studies or site remediation activities. In both instances, site safety plans are mandatory as required by federal and state Occupational Safety and Health Administration regulations. Such site safety plans typically include provisions for safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency response and fire prevention plan preparation.

## HAZARDOUS MATERIALS TRANSPORTATION REQUIREMENTS

The U.S. Department of Transportation (DOT) has the regulatory responsibility for the safe transportation of hazardous materials between states. DOT regulations govern all means of

transportation, except for those packages shipped by mail, which are covered by the U.S. Postal Service regulations. DOT regulations are contained in the Code of Federal Regulations Title 49 (49 CFR); U.S. Postal Service regulations are in 39 CFR.

Every package type used by a hazardous materials shipper must undergo tests which imitate some of the possible rigors of travel. While not every package must be put through every test, most packages must be able to meet the following generic test: the ability to be (a) kept under running water for one-half hour without leaking; (b) dropped, fully loaded, onto a concrete floor; (c) compressed from both sides for a period of time; (d) subjected to low and high pressure; and (e) frozen and heated alternately.

Under RCRA, the U.S. EPA set standards for transporters of hazardous waste. In addition, the State of California regulates the transportation of hazardous waste originating or passing through the state; state regulations are contained in CCR, Title 13. Both regulatory programs apply in California.

State regulations concerning transport of hazardous materials and hazardous wastes are contained in CCR, Title 22, Chapter 13. Two state agencies have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies: the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

The CHP enforces hazardous materials and hazardous waste labeling, packing, and manifesting regulations that prevent leakage and spills of material in transit and provide detailed information to cleanup crews in the event of an accident. Hazardous waste must be regularly removed from generating sites under manifest by licensed hazardous waste transporters. Common carriers are licensed by the CHP pursuant to the California Vehicle Code, Section 32000. This section requires licensing of every motor (common) carrier who transports, for a fee, in excess of 500 pounds of hazardous materials at one time and every carrier, if not for hire, who carries more than 1,000 pounds of hazardous material of the type requiring placards. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the responsibility of CHP, which conducts regular inspections of licensed transporters to assure regulatory compliance.

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## APPENDIX D: CULTURAL RESOURCES

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TABLE D.1: HISTORIC RESOURCES INVENTORY, SAN PABLO AREA

Resource Location	Evaluation Category	Importance
ALVARADO ADOBE San Pablo Avenue and Church Lane	Site Relating to Important Person in History	The Alvarado Adobe, also known as the Castro Adobe, was built by the family of Don Francisco Castro, owner of Rancho San Pablo, for his daughter, Martinia, and her husband, former Mexican Governor of California, Juan Bautista Alvarado, who lived in the Adobe from 1849 until his death in 1892. The Adobe was demolished in 1954, and has been rebuilt at One Alvarado Square. California Historical Landmark #512.
BLUME HOUSE, ALVARADO SQUARE San Pablo Avenue near Church Lane	Structure of Historic Significance	Built in 1905 and formerly located off Hilltop Drive, it was the headquarters for the sprawling Blume Ranch and the largest single family dwelling within the community. It is now located in Alvarado Square Historic Park Complex and will become a community facility.
TEXIERA HOME, ALVARADO SQUARE San Pablo Avenue near Church Lane	Structure of Historic Significance	The Texiera home was originally located at the corner of Van Ness and Standard Streets, and served as residence of one of San Pablo's leading families. Built in the early 1890's, the house will become a community facility at its new location in the Alvarado Square Historic Park Complex.
THE PULLMAN STREET RECTORY 1901 Church Lane	Structure of Historic Significance/Architectural Specimen	Formerly a rectory for St. Paul's Parish, this four bedroom structure, built in 1875, was relocated during the 1930's and is now used for an abused women's program. It has been restored to its original Victorian grandeur.
ANDRATA HOUSE 918 Randy Lane	Structure of Historic Significance	Built in early 1900's by Andrata, foreman of the Emeric Ranch, who was able to purchase a considerable amount of land from his employer who had to sell land to help pay the cost of legal fees. The litigation between the Emerics and the Castro family over the vast land holdings forced both families to sell property at a loss.

(Continued)

TABLE D.1: HISTORIC RESOURCES INVENTORY, SAN PABLO AREA (Continued)

Resource Location	Evaluation Category	Importance
STANLEY ALTER HOME, 2022 Road 20	Structure of Historic Significance/Architectural Specimen	This structure is another of the homes built by San Pablo's early Portuguese settlers. Constructed with square nails and two inch thick redwood planks, the house was originally built and owned by a man named Machado, an early day community leader. The Alter Family bought the house in 1948.
EARTHQUAKE REFUGEE CAMP 2650 Market Avenue	Site of Historic Event/ Site Relating to Important Person in History	Victims of the 1906 earthquake and fire in San Francisco were given food, clothing, shelter and medical attention here in barrack-style buildings and hospital, sponsored by Standard Oil Company with John D. Rockefeller funds. A shed-like structure is all that remains of the camp that is currently used as a catering and event facility.
ST. PAUL'S CATHOLIC CHURCH AND GRAVEYARD 1825 Church Lane	Site of Historic Event/ Site Relating to Important Person in History	California's Governor, Alvarado, and his wife, Martina Castro Alvarado, gave to the community almost four acres of land for a church site. San Pablo's earliest settlers built St. Paul's church in 1863. The original church was of frame construction and similar in design to Old World churches. It was located on Church Lane, just west of the present St. Paul's, and cost \$300 to build. The graveyard that was located just south of the church was moved to accommodate St. Paul's Elementary School.
DEPOT BUSINESS AREA 13th and Market Streets	Site of Historic Event	(Continued) Site of an early commercial area built around railroad depots. Included: Emeric Hall; Depot School; grocery store; Dolan Saloon; Fish & Blume Warehouse; Gould Landing; Dr. Goodale Home; Santa Fe and Southern Pacific Railroads.

SOURCE: Contra Costa County Historic Resources Inventory and City of San Pablo staff





## APPENDIX E: WATER QUALITY

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TABLE E.1: ROAD SURFACE RUNOFF CONSTITUENTS AND THEIR PRIMARY SOURCES

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<u>Constituents</u> <sup>1</sup>	<u>Primary Sources</u>
Particulate	pavement wear, vehicles, atmosphere, maintenance
Nitrogen and Phosphorus	atmosphere, roadside fertilizer application
Lead	leaded gasoline (auto exhaust), tire wear (lead oxide filler material), lubricating oil and grease, bearing wear
Zinc	tire wear (filler material), motor oil (stabilizing additive), grease
Iron	vehicle body rust, steel highway structures (guard rails, etc.), moving engine parts
Copper	metal plating, bearing and bushing wear, moving engine parts, brake lining wear, fungicides and insecticides
Cadmium	tire wear (filler material), insecticide application
Chromium	metal plating, moving parts, brake lining wear
Nickel	diesel fuel and gasoline (exhaust), lubricating oil, metal plating, bushing wear, brake lining wear, asphalt paving
Manganese	moving engine parts
Sulfate	roadway beds
Petroleum	spills, leaks or blow-by of motor lubricants, antifreeze and hydraulic fluids, asphalt surface leachate
PCB	spraying of highway rights-of-way, background atmospheric deposition, PCB catalyst in synthetic tires

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<sup>1</sup> Constituents selected by ESA to represent conditions in the San Pablo area. Specifically, constituents related to de-icing have been eliminated from this list, as this is not a common practice in San Pablo.

SOURCE: Douglas L. Smith and Byron N. Lord, 1990. "Highway Water Quality Control - Summary of 15 Years of Research," *Transportation Research Record No. 1279, Energy and Environment, Hydrology and Environmental Design*, Transportation Research Board, National Research Council.

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## APPENDIX F: AIR QUALITY STANDARDS AND REGULATIONS

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## **APPENDIX F: AIR QUALITY STANDARDS AND REGULATIONS**

### **FEDERAL**

National Ambient Air Quality Standards (NAAQS) have been established for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), suspended particulate matter (PM<sub>10</sub>) and lead (Pb). These pollutants are called "criteria" air pollutants. Table F-1 identifies the NAAQS as well as the corresponding State standards (the State Ambient Air Quality Standards, or SAAQS).

The EPA has classified air basins (or portions of the air basins) as either "attainment" or "non-attainment" for each criteria air pollutant, based on whether or not these areas have met the NAAQS. The City of San Pablo is within the San Francisco Bay Area Air Basin, which the EPA has classified as attainment for O<sub>3</sub>. The Bay Area is the largest metropolitan area in the country to attain the national ozone standard. The urbanized areas of the Air Basin are classified as non-attainment for CO. The Air Basin is classified as an attainment area for SO<sub>2</sub> and Pb and is "unclassified" for PM<sub>10</sub> and NO<sub>2</sub> (California Air Resources Board, 1993). "Unclassified" applies to an area that cannot be classified on the basis of available information as meeting or not meeting the appropriate standard for the pollutant.

Air toxics are regulated separately from criteria air pollutants at both the federal and state levels. Federal law defines Hazardous Air Pollutants (HAPs) as non-criteria air pollutants with short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. A total of 189 air pollutants have been designated HAPs because of their adverse human health effects. There are both federal and state controls on individual sources of HAPs.

The EPA established National Emission Standards for Hazardous Air Pollutants (NESHAPs) for benzene, vinyl chloride, inorganic arsenic, beryllium, mercury, asbestos, radionuclides, and coke oven gas. The 1990 Clean Air Act Amendments offer a comprehensive plan for achieving significant reductions in both mobile and stationary source emissions of HAPs. All stationary sources of HAPs will be required to obtain an operating permit under Title V of the 1990 Clean Air Act Amendments.



TABLE F-1: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	SAAQS/a/	NAAQS/b/
Ozone	1 hour	0.09 ppm/c/	0.12 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 hour	0.25 ppm	NA
	Annual	NA	0.053 ppm
Sulfur Dioxide	1 hour	0.25 ppm	NA
	3 hour	NA	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	NA	0.03 ppm
Respirable Particulate Matter	24 hour	50 ug/m3/c/	150 ug/m3
	Annual	30 ug/m3	50 ug/m3
Sulfates	24 hour	25 ug/m3	NA
Lead	30 day	1.5 ug/m3	NA
	Calendar Quarter	NA	1.5 ug/m3
Hydrogen Sulfide	1 hour	0.03 ppm	NA
Vinyl Chloride	24 hour	0.010 ppm	NA

/a/ SAAQS (i.e. California standards) for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, respirable particulate matter are values that are not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

/b/ NAAQS (i.e. national standards), other than ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

/c/ ppm = parts per million by volume; ug/m3 = micrograms per cubic meter.

NA: Not Applicable.

SOURCE: California Air Resources Board, *California Air Quality Data Summary*, 1993.

## STATE

California has adopted some ambient standards for the criteria air pollutants that are more stringent than the federal standards. Under the California Clean Air Act (CCAA), patterned after the Federal Clean Air Act, areas have been designated as attainment or non-attainment with respect to the state ambient air quality standards. The Air Basin is a non-attainment area for O<sub>3</sub> and PM<sub>10</sub> with respect to the state standards. The Air Basin has been designated as an attainment area with respect to the state CO standard. The Air Basin is also designated as an attainment area for NO<sub>2</sub>, SO<sub>2</sub> and Pb. (California Air Resources Board, 1994)

California State law defines toxic air contaminants (TACs) as air pollutants having carcinogenic effects. Assembly Bill (AB) 1807 (the Tanner Bill, passed in 1983) established the State Air Toxics Program and the methods for designating certain air toxics as TACs. A total of 191 substances have been designated TACs under California law; they include the 189 (federal) HAPs adopted as TACs in accordance with AB 2728. The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB2588) seeks to identify and evaluate risk from air toxics sources; AB 2588 does not regulate air toxic emissions. Under AB 2588, sources emitting more than 10 tons per year of any criteria air pollutant must estimate and report their toxic air emissions to the local Air Districts. The local Air Districts then prioritize facilities on the basis of emissions, and "high priority" facilities are required to submit a health-risk assessment and communicate the results to the affected public. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures. The BAAQMD is responsible for implementing AB 2588 in the San Francisco Bay Area Air Basin.

## BAAQMD APPROACH TO DUST ABATEMENT

The "basic" dust control program includes:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (preferably with water sweepers) all paved access roads, parking areas and staging areas at construction sites.

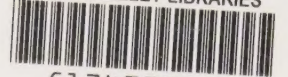
- Sweep street daily (preferably with water sweepers) if visible soil material is carried onto adjacent public streets.

The "enhanced" dust control program includes all of the "basic" measures and the following additional measures:

- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

The "optional" dust control measures supplement the "basic" and "enhanced" programs to address site-specific issues. They include:

- Install wheel washers for all exiting trucks, or wash off all trucks and equipment leaving the site.
- Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas.
- Suspend excavation and grading activity when winds exceed 25 mph.
- Limit the area subject to excavation, grading, and other construction activity at any one time.



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